

The Voices of Mindfulness, Attachment-Related Strategies
and the Mother-Child Relationship

A DISSERTATION
SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL
OF THE UNIVERSITY OF MINNESOTA
BY

Meg Little

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF EDUCATION

Frank Guldbrandsen, Ph.D., Adviser

April 2013

Acknowledgements

It is a delight to acknowledge my gratitude to the generous and inspiring people who have contributed to my development as a teacher and a scholar. Marylou Awiakta says it best in her poem, *Motherroot*,

Creation often
needs two hearts
one to root
and one to flower
One to sustain
in times of drouth
and hold fast
against winds of pain
the fragile bloom
that in the glory
of its hour
affirms a heart
unsung, unseen (1983, p. 230)

In the glory of this hour I affirm the hearts who have sustained me through these four mind-blowing, transformative years. I am deeply grateful to my adviser, Dr. Frank Guldbrandsen for his intellectual rigor, Socratic questions, and ability to sing louder than the rest. Dr. Molly Harney introduced me to the wonderful world of attachment theory. She listened intently and helped me herd my ideas into a clear and manageable project. Dr. Beth Bartlett and Dr. Terrie Shannon shared their precious time, attention, and critical perspective. I owe a great debt to Vicki Thrasher Cronin for her infectious love of and dedication to parents, children, and community and reminding me to wonder. Kathleen Gates' wise counsel has been invaluable. I cherish the camaraderie, encouragement, and good humor of my cohort-mates and colleagues. I greatly appreciate my parents, Bob and Peg Little, for their love and enthusiasm for my work. My sister, Mimi, has been my champion, friend, and reality check; what a long strange trip it's been. Lastly, I am deeply grateful to the courageous women who graciously shared their stories for this project

Dedication

To the little gray-eyed girl who thought she could.

To “the sons and daughters of Life’s longing for itself” (Gibran, p. 8)

Sean, Mairin, Conor, Micaela, & Liam

Abstract

Attachment security and mother-child relationships serve a critical role in human development. Several studies have demonstrated an association between the salutary effects of security-based attachment strategies and mindfulness. This descriptive research study explores this relationship through semi-structured interviews, the Five Facet Mindfulness Questionnaire (FFMQ) and the Experiences in Close Relationships (ECR) Scale. Five recently homeless mothers were offered eight mindfulness training sessions. Interviews were interpreted using the Listening Guide, a qualitative, feminist, relational, voice-centered method of analysis to describe the perceived effects of mindfulness practices on the qualia of mindfulness, attachment-related strategies, and the nature of mother-child relationships. Mothers report increased mindfulness, reduced stress, improved parenting experiences, and mutually fulfilling relationships with their children.

Table of Contents

Acknowledgements.....	i
Dedication.....	ii
Abstract.....	iii
Table of Contents.....	iv
List of Figures.....	vii
CHAPTER 1. INTRODUCTION TO THE RESEARCH.....	1
Introduction.....	1
Microsystem: Mothers, Infants, and Attachment.....	2
Mesosystem: Internal Working Models.....	8
Exosystem: Motherhood and Homelessness.....	9
Macrosystem: Motherhood, Poverty and the <i>Evolutionary Environment of Adaptedness</i>	11
Mindfulness: A Quiet Revolution.....	14
Conceptual Framework.....	17
Problem Statement.....	18
Purpose.....	19
Research Questions.....	19
Definitions.....	19
Summary.....	21
CHAPTER 2. REVIEW OF THE SALIENT LITERATURE.....	22
Overview.....	22
Attachment Theory.....	24
Origins of Attachment Theory.....	25
Bowlby.....	26
Ainsworth.....	28
Individual Differences in Attachment.....	28
Self as Organization.....	31
Attachment as Regulatory System.....	34
The Mirror Neuron System.....	35
Internal Working Models.....	38
Polyvagal Theory.....	43
Adult Attachment.....	46
Transition to Parenthood.....	50
Caregiving.....	50
Rewiring for Compassion and Caregiving.....	52
Intergenerational Transference of Attachment.....	54
Summary.....	54
Homelessness, Poverty, and Mother-Child Well-being.....	55
Mindfulness.....	58

Attention Regulation.....	64
Neural Mechanisms of Attention in Mindfulness.....	65
Body Awareness.....	66
Neural Mechanisms of Body Awareness.....	68
Emotion Regulation.....	69
Neural Mechanisms of Emotion Regulation.....	72
Changes in Perspective of the Self.....	74
Neural Mechanisms of Changes in Perspective of the Self.....	77
Caregiving and Compassion.....	79
Parenting.....	83
CHAPTER 3. METHODOLOGY.....	86
Conceptual Framework.....	86
Problem Statement.....	86
Purpose.....	87
Research Questions.....	87
Study Participants.....	87
Data Collection and Analysis.....	88
Self-report Measures.....	88
Five Facet Mindfulness Questionnaire.....	88
Experiences in Close Relationships Scale.....	90
Semi-structured Interviews.....	91
Summary.....	94
CHAPTER 4. RESULTS.....	95
Problem Statement.....	95
Purpose.....	95
Research Questions.....	95
Setting and Context.....	96
Procedure and Implementation.....	97
Introducing Mindfulness.....	97
Results and Analysis.....	100
Organization of Analysis.....	100
The Listening Guide.....	100
Aurora.....	102
Step One: Listening for the Plot.....	102
Step Two: Listening for First-person Voice; Constructing I-Poems.....	103
Pre-training I-Poem.....	104
Post-training I-Poem.....	105
Step Three: Listening for Contrapuntal Voices.....	108
The Voice of Relationship.....	109
The Voice of Attachment-related Strategies.....	109
The Voice of Mindfulness.....	111

Aurora’s Contrapuntal Voices: Pre-training	115
Aurora’s Contrapuntal Voices: Post-training.....	117
Step Four: Composing an Analysis	119
The Voice of Relationship	120
The Voice of Mindfulness	120
The Voice of Attachment.....	121
Summary	122
Inanna.....	123
Rhiannon.....	129
Kalliope.....	134
Phoebe.....	137
Survey Results	140
Experiences in Close Relationships Scale	141
Five Facet Mindfulness Questionnaire	141
Aurora	141
Inanna.....	144
Rhiannon.....	145
Kalliope.....	145
Phoebe.....	146
Summary	147
CHAPTER 5. FINDINGS, CONCLUSIONS AND IMPLICATIONS.....	149
Background.....	149
Discussion and Conclusions	150
Perceived Affects of Mindfulness, Attachment, and Relationship.....	150
Aurora	151
Rhiannon.....	153
Inanna.....	155
Kalliope.....	156
Phoebe.....	158
The Lived Experience of Mothers Practicing Mindfulness	160
Contrapuntal Voices: Attachment, Mindfulness and the Nature of the Parent-Child Relationship.....	162
Implications and Future Research.....	164
References.....	168
Appendices	
A. Mindfulness Training Session Outlines	200
B. Five Facet Mindfulness Questionnaire	203
C. Experiences in Close Relationships Scale	206

List of Figures

Figure	Page
1. The conceptual framework of the intersection of attachment, relationship, brain development and plasticity, and mindfulness	18
2. Attachment avoidance and anxiety map of change in ECR scores from pre- to post-training: Aurora (A), Inanna (I), Rhiannon (R), Kalliope (K), and Phoebe (P, pre-training score only).....	143

CHAPTER 1. INTRODUCTION TO THE RESEARCH

“I am, because we are; and since we are, therefore I am.”

(Mbiti, 1990, p. 106)

Introduction

Two hundred and fifty or so babies are born every minute around the globe. They are the future of humanity; the quality of this future depends on how we care for *all* of them (Central Intelligence Agency [CIA], 2012). While relationships with the people nearest to a child have the greatest impact on their development, we are all connected.

Einstein captures the essence of our interdependence in a letter to a grieving parent:

A human being is part of a whole, called by us the “Universe,” a part limited in time and space. He experiences himself, his thoughts and feelings, as something separated from the rest - a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest us. Our task must be to free ourselves from this prison by widening our circles of compassion to embrace all living creatures and the whole of nature in its beauty. (as cited in Sullivan, 1972, p. 1)

Ecological systems theory (Bronfenbrenner, 1979) offers a way to think about how the child develops as part of the whole in the context of widening circles. This model is made up of nested circles: microsystem, mesosystem, exosystem, and macrosystem. The child or other developing person is situated at the heart of the model in the microsystem. Here direct interactions take place between the child and those people and structures in the immediate environment. The mesosystem refers to relations between contexts such as connections between family and peer experiences. The child is not directly involved in the exosystem, yet is affected by events that occur, for instance, at a

parent's workplace. The outermost layer of the environment, the macrosystem, is comprised of generalized patterns of social institution, laws, cultural or sub-cultural values, and customs. As a result, these component systems can differ significantly between societal or cultural groups. Lastly, the chronosystem, while not a part of the nested arrangement, accounts for the effects of time related to the dynamic and changing systems; a child born to a couple in their twenties will have experiences different from those experienced by a sibling born to the same parents in their forties (Bronfenbrenner & Ceci, 1994). The interconnectedness of structures within and between systems is a key part of this theory. Changes or conflict in any one area ripple throughout others. Complex dynamic interactions between a child's genes, maturing biology, immediate environment, relationships with parents, social networks, and the cultural landscape shape the child's experiences.

Microsystem: Mothers, Infants, and Attachment

Bronfenbrenner (2005) championed two environmental principles of child development. The first is especially relevant to the microsystem:

In order to develop normally, a child needs the enduring, irrational involvement of one or more adults in care of and in joint activity with that child. In short, *somebody has to be crazy about that kid*. Someone also has to be there and to be doing something – not alone but *together* with the child. [Italics original] (Bronfenbrenner, 2005, p. 262)

Attachment theory describes such an enduring irrational relationship between the mother (primary caretaker and attachment figure) and the child. Developed by John Bowlby and Mary Ainsworth, attachment theory is an ethological approach to development. It is comprised of an attachment behavior system and a corresponding

caregiving behavior system based on proximity between infant and mother and sensitive responsive care. When this relationship is going well, it results in joy and felt security (Bowlby, 1988; Main & Solomon, 1986; Sroufe & Waters, 1977). On the other hand, separation, inadequate, or insensitive care typically lead to insecure attachment, higher levels of anxiety, and avoidance (Bowlby, 1988; Hazan & Shaver, 1987). These first experiences and relationships play a critical role in the development of attachment, which shapes a child's brain architecture and sets the developmental pathways that will affect the way the infant's life unfolds including physical and psychosocial health into adulthood (Ainsworth, Blehar, Waters & Wall, 1978; Bowlby, 1973, 1982; Shonkoff & Phillips, 2000).

Damasio (1998) asserts that emotions are the highest-order, most complex expression of homeostatic bioregulatory systems. He offers the following definition:

The term emotion should be rightfully used to designate a collection of responses triggered from parts of the brain to the body, and from parts of the brain to other parts of the brain, using both neural and humoral [hormonal] routes. The end result of the collection of such responses is an *emotional state*, defined by changes within the body proper, e.g., viscera, internal milieu, and within certain sectors of the brain, e.g., somatosensory cortices; neurotransmitter nuclei in brainstem. (Damasio, 1998, p. 84)

And, according to Damasio (1994), "The overall function of the brain is to be well informed about what goes on in the rest of the body" (p. 90). The behaviors and feelings that result from emotions affect the person's present and future inner world as well as interactions with others in the service of reasoning and decision making, memory, creativity and ultimately, survival along approach-avoid, desire-withdrawal dimensions

(Damasio, 1998). Emotional development, then, refers to the progress/maturation of adaptive homeostatic bioregulatory responses within the infant's brain and body proper.

According to Allan Schore (2001c), the early right brain growth spurt allows for the emergence of experience dependent bodily and affective regulatory systems embedded in the attachment relationship between the infant and mother (Chiron et al., 1997; Schore, 1994).

This developmental psychoneurobiological model clearly suggests direct links between secure attachment, development of efficient right brain regulatory functions, and adaptive infant mental health, as well as between traumatic attachment, inefficient right brain regulatory function, and maladaptive infant mental health. (Schore, 2001c, p. 10)

Schore (2005) defines attachment as the “dyadic regulation of emotion” consistent with research which concludes that “attainment of an attachment bond of emotional communication and the maturation of affect represent the key events in infancy more so than does the development of complex cognitions” (p. 205). In the beginning of their life together, the mother “constructs an organized matrix around infant behavior and state changes” (Sroufe, 1990, p. 283). Over time, the child becomes increasingly autonomous, developing an inner organization and self-regulation (Sander, 1975) while the mother remains a secure base and safe haven (Ainsworth et al., 1978). The equanimous attuned mother buffers and co-regulates infant stress responses until the infant is autonomous enough to accomplish this on her own. In Bowlby's (1973) terms, “The model of the attachment figure and model of the [child's] self are likely to develop so as to be complementary and mutually confirming” (p. 204).

While positive stress is necessary for development and survival (Chrousos, 1998), strong, frequent, or prolonged activation of the infant's stress response system in the absence of regulation by secure, safe, caregiving relationships can result in toxic stress. Deprivation, violence, poverty, homelessness, family discord, and parental stress are potential sources of stress in infancy and early childhood (National Scientific Council on the Developing Child [NSCDC], 2005). Toxic stress generated by chaotic or unstable relationships is cumulative and can complicate brain development, and can increase risk of stress-related physical and mental illness both in childhood and later in life. This phenomenon can become cyclical given that when these children reach adulthood they are more likely to pass insecure attachment and compromised stress response systems to their offspring by way of prenatal stress and suboptimal parenting (NSCDC, 2005). Secure relationships can prevent (and even reverse) the harmful effects of stress response. For example, a study of Early Head Start mothers (Raikes & Thompson, 2005) showed higher self-efficacy, a characteristic of secure attachment, was associated with lower levels of parenting stress compared to low income and social support. Family stress was the strongest predictor of parenting stress.

This potential for change is consistent with Bowlby's belief that every starting point in development has an outcome and every outcome is also a new starting point (Sroufe & Siegel, 2011). In addition, capacity for change is also supported by brain research. Brain plasticity (Pascual-Leone, Amedi, Fregni, & Merabet, 2005; Pascual-Leone et al., 2011; Rakic, 2002) allows new experiences and behaviors, such as changes

in parenting for an infant or a secure romantic relationship for an adult, can moderate and mediate the effects of insecure attachment.

Brain research is revealing the neural [substrates] underpinnings of attachment. Pregnancy and the arrival of offspring trigger dramatic chemical and physical changes in the maternal brain to ensure successful caregiving behavior (Lambert & Kinsley, 2012). The advent of functional magnetic resonance imaging (fMRI) enabled scientists to observe the neural basis of these changes. Bartels and Zeki (2004) observed brain activity unique to *maternal love* and distinct from reactions to infants of the mother's friend or acquaintance. Parts of the maternal brain used in negative emotions and social judgment were deactivated. Others, such as the reward system that coincide with areas rich in oxytocin and vasopressin receptors (attachment-mediating neurohormones), were activated in response to still pictures of their own infants. This activation and deactivation allow the mother to approach her infant even in unpleasant situations that would normally elicit a withdrawal response. Lorberbaum et al. (1999) studied mother-infant interaction by monitoring brain activity as mothers listened to infant cries and white noise, and observed increased activity within specific brain areas in response to infant cries. A number of functions located in the right hemisphere, which Schore (1994) argues are centrally involved in the attachment system such as facial processing and auditory perception, might facilitate communication and monitoring of a baby. Bourne and Todd (2004) studied the tendency to hold infants and children on the left side of the body in both right- and left-handed college students. They found that those who left cradled were significantly right lateralized, suggesting that females (and not males) cradle a baby on

the side opposite the hemisphere that is dominant for emotions-based faces processing (Sieratzki & Woll, 1996). Women who cradled on the right side showed lower left hemisphere dominance.

Near infrared spectroscopy (NIRS) offers another way to investigate the neural underpinnings of attachment (Grossman, 2008). Minagawa-Kawai et al. (2009) used NIRS to the mechanisms of mother-infant interactions by showing that mothers and infants demonstrated similar brain activation in response to videos of each other's positive emotional states. Carlsson, Lagercrantz, Olson, Printz, and Bartocci (2008) studied healthy six- to nine-month-old infants and reported higher reactions in infants' right fronto-temporal cortex in reaction to their mother's face compared to unfamiliar female faces.

Cicchetti and Tucker (1994) argue that "environmental experience is now recognized to be critical to the differentiation of brain tissue itself" (p. 538). The infant's right hemisphere is specialized for the processing of emotional information, has deep connections with limbic and autonomic systems, and is centrally involved in the "social and biological functions of the attachment system" (Schore, 2000c, p. 31). It undergoes a growth spurt in the last trimester of pregnancy which continues to 18 to 24 months and remains dominant in the first three years of life (Chiron et al., 1997; Kasprian et al., 2011; Trevarthen, 1996).

Schore (2000a) characterizes mother-infant attachment interactions as right brain to right, unconscious nonverbal mind-body communications. The mother uses her right brain to tune in, monitor, and respond to changes in the securely attached infant's internal

state. The infant in turn uses the mother's right brain emotion regulation as a template for imprinting. This back-and-forth facilitates the experience-dependent growth and development of the infant's right brain. As noted earlier, this mutual regulation of affect plays an important role in the emergence of self-regulation (Feldman, Greenbaum, & Yirmiya, 1999).

Mesosystem: Internal Working Models

By the end of the first year, the infant develops templates called internal working models (IWMs) which lead her to anticipate maternal responses to her signals and state changes. This becomes evident within the mesosystem as microsystem contexts interact (e.g., family and peers, family and school.) When the mother is consistently available and responsive, the infant develops expectations and "confidence that others will be helpful when appealed to becoming increasingly self reliant and bold in [her] explorations of the world, cooperative with others and sympathetic and helpful to others in distress" (Bowlby, 1988, p. 82). These internal models "shape cognitive processing of social information, the appraisal of important changes in the internal and external environments, and the selection of social behaviors" (Shaver, Collins, & Clark, 1996, p. 46) into adulthood (Fraley, Heffernan, Vicary, & Brumbaugh, 2011). Within the mesosystem, for instance, this mechanism would be evident in the relationship between family and peers or family and school. Securely attached children appear to be better liked by peers in both middle and low socioeconomic groups (LaFreniere & Sroufe, 1985), to be rated by teachers as more competent with peers, and have constructive coping behaviors (Contreras, Kerns, Weimer, Gentzler, & Tomich, 2000) and fewer behavior problems

(Erickson, Sroufe, & Egeland, 1985). Longitudinal studies comparing attachment in infancy and peer relations in middle childhood (Elicker, Englund, & Sroufe, 1992; Grossmann & Grossmann, 1991) show similar results. In comparison, a child who has been rejected in the context of the family is likely to behave in a ways that lead to further rejection by peers while being strikingly more dependent on teachers (Collins, Harris, & Susman, 1995; Sroufe & Siegel, 2011).

Exosystem: Motherhood and Homelessness

Experiences outside the micro- and mesosystems affect the mother and her subsequent interactions with the infant. Homelessness is one salient example. This topic was very familiar to Bowlby; one of the precursors to attachment theory was his report for the World Health Organization on the mental health of homeless children in postwar Europe, *Maternal Care and Mental Health* (Bowlby, 1952). Homelessness has a unique and profound effect on mothers who as a group have “fewer economic resources and social supports and higher cumulative rates of violent abuse and assault over their lifespans than their housed counterparts” (Bassuk et al., 1996, p. 640). The scope of the problem is extensive. Families comprise the fastest growing segment of the homeless population.

The number of homeless persons in families has increased by 20 percent from 2007 to 2010. The proportion of homeless people who are using emergency shelter and transitional housing as part of a family has increased from 30 percent to 35 percent during this same period. (U.S. Department of Housing and Urban Development [HUD], 2010, p. iii)

The 2010 point in time count found that of all homeless persons, 37.2% were persons in families in shelters, transitional housing programs, or on the streets. The families

experiencing homelessness generally consist of a mother (84%) in her late twenties with two children; 42% of children in homeless families are under age six. Sixty percent of homeless women have children under age 18, and many experience the devastating loss or separation from their children, as only 65% of them live with at least one of these children (National Center on Family Homelessness [NCFH], 2012).

For mothers, homelessness is associated with major stressors and trauma, including severe physical and/or sexual abuse, a major depressive episode since becoming homeless, Post Traumatic Stress Disorder (PTSD), and drug or alcohol dependence. Over one third have a chronic physical health condition (NCFH, 2012; Paquette & Bassuk, 2009).

Mothers with a childhood history of foster care placement are more likely to become homeless at a younger age than those not experiencing foster care (NCFH, 2012). Foster care can ameliorate or complicate attachment. Children placed in foster care have experienced inadequate care or maltreatment often associated with insecure attachment (Egeland & Sroufe, 1981, Paquette & Bassuk, 2009). However, infants placed in foster care in the first 18 months of life who experienced nurturing responses to their initial insecure behaviors were likely to develop secure attachment. And the majority of children placed with insecure foster parents were likely to have disorganized attachments (Dozier, Stovall, Albus, & Bates, 2001). The relationship between foster care and attachment therefore may have implications for future homeless young mothers.

Macrosystem: Motherhood, Poverty and the *Evolutionary Environment of Adaptedness*

A number of factors impact the mother and her developing child at the macrosystem level, including cultural conceptions of motherhood and poverty. In her book, *Homeless Mothers*, Connolly (2000) asserts that when motherhood falls short of the stable, well off, two-parent family cultural ideal, it is characterized as “something that needs intensive intervention to ensure its adequacy and alignment with cultural norms” (p. xvi). She argues that “dominant standards of the good mother readily become another source of injury for mothers whose finances, education, age, living conditions, marital status, and available strategies of solace and escape render such standards out of reach or counterproductive” (Connolly, 2000, pp. xvii-xviii).

The combination of motherhood and poverty amplifies the issues. Poverty is widespread in families headed by women (40.7%); more than half of all poor children (55%) lived in families headed by women. More than half a million (13.1%) of single women with children who worked full-time, year-round in 2010 lived in poverty (National Women’s Law Center [NWLC], 2011). While poverty is often depicted as a personal failing, it is a systemic social issue (Lui, Robles, & Leondar-Wright, 2006) with dire consequences for mothers and children (Connolly, 2000). Diana Pearce (1978) is credited with coining of the phrase, “the feminization of poverty.” Mothers who live in poverty experience an array of psychosocial and physical stresses, which adversely affect their relationships with their children and thus child development. As described earlier, stressful environments can be detrimental to secure attachment (Vaughn, Egeland,

Sroufe, & Waters, 1979). People tend to internalize cultural attitudes about poverty. The stigma associated with poverty can negatively affect a person's sense of self as well as access to resources (Reutter et al., 2009). And, as Evans, Boxhill, and Pinkava (2008) found, "poverty erodes maternal responsiveness because of elevated psychological stress and diminished social networks in mothers of low-income children" (p. 235), and not "inherent, personal qualities" (p. 234). This study suggests consideration of the ecological aspects of poverty in policy development.

At the macro, societal level, the distribution of attachment styles is similar to those found at the micro level: infants 59% secure, 25% avoidant (Ainsworth et al., 1978), and 11% anxious (Mickelson, Kessler, & Shaver, 1997), which means that children are growing up in a milieu significantly influenced by adults whose capacity to be responsive to children is compromised. Insecure adult attachment is hallmarked by argumentativeness, intrusiveness, and preoccupation with own feelings to the neglect of others (Shaver et al., 1996) as well as false independence, suppression of distress, and active inattention to threats (Mikulincer & Shaver, 2003), qualities that are not conducive to caring for mothers or children on a micro or macro scale (Ryan, 2012; Schore, 2012).

As Bowlby (1952) notes:

Just as children are absolutely dependent on their parents for sustenance, so in all but the most primitive communities, are parents, especially their mothers, dependent on a greater society If a community values its children it must cherish their parents. (p. 84)

Bowlby (1982) also addresses attachment theory on a grand scale with his notion of the environment of evolutionary adaptedness (EEA). EEA describes the way

organisms are shaped by their evolutionary environment and their tendency to function best in that environment. For example, in order to adapt to evolutionary pressures and protect offspring, mammals developed an attachment behavior system, and today young mammals from mice to humans are not able to function optimally outside of an EEA that supports attachment. Schore (2012) describes this as the “psychobiological space that a particular culture, at any point of its history, creates to scaffold the emotional attachment bonding between mothers and infants” (p. 20).

In his most recent work, Schore (2012) contends that for the last two decades “American culture has been providing a growth inhibiting EEA for mother-infant attachment bond formation in the first two years of life” (p. 364). His comment is borne out by statistics like these gathered by Zero To Three (2009):

In 2002, one in nine infants was born to a mother who received inadequate prenatal care, which is associated with poor birth outcomes such as prematurity and low birth weight; 14% of children between the ages of 2 and 5 are considered obese; one in five children has a diagnosable mental disorder even though the factors that predict mental health problems can be identified in the early years; 75% to 80% of children and youth in need of mental health services do not receive them; and maternal depression, anxiety disorders, and other forms of chronic depression affect approximately 10% of mothers with young children. (p. 2)

In the short term, there are significant ramifications for brain, cognitive, and social development. Long term, the stakes are even higher as the altered EEA has “less than optimal epigenetic influences on the experience-dependant, maturation of the early developing emotion-processing right brain” and “a substantial increase in the number of individuals with a neurobiological predisposition for psychiatric disorders” (Schore, 2012, p. 364).

Mindfulness: A Quiet Revolution

Based on millennia of practice and 30 years of research in the West, the practice of mindfulness may be one way to support health in the contexts of individual well-being, families and caregiving, and communities. One of the most common definitions of mindfulness in the West comes from Jon Kabat-Zinn (1994), “Mindfulness means paying attention in a particular way: on purpose, in the present moment, and non-judgmentally” (p. 4). Shaver, Lavy, Saron, and Mikulincer (2007) write, “It is already clear that the psychological and neurological correlates of mindfulness, affective emotion and self-regulation, and attachment security are similar” (p. 264). These qualities are consistent with Solomon and George’s (1999) description of attachment security: the “hallmark of caregiving associated with attachment security (flexible care) [is] a mother’s commitment to finding a way to integrate and balance her own behavioral systems (i.e., her multiple roles and own attachment needs) with those of her child” (p. 662)

Mindfulness practices can include mindfulness meditation, yoga, tai chi, qigong, and centering prayer, as well as mindfully engaging in everyday tasks such as walking and eating (Bays, 2009; Kabat-Zinn, 1991; Siegel, 2009). Baer, Smith, Hopkins, Krietemeyer, and Toney (2006) conducted an extensive factor analysis to determine psychometric characteristics of mindfulness questionnaires and found five factors to be significant: (a) acting with awareness versus automatic responses; (b) non-reactivity to inner experience; (c) non-judgment or being confined by prior expectations; (d) describing and labeling the inner world; and (e) observing, noticing internal and external phenomena.

Mindfulness has many beneficial outcomes for individuals. Gillath, Bunge, Shaver, Wendelken, and Mikulincer (2005) explored the relationship between emotion regulation and attachment style. They measured reactions of female participants to positive and negative relationship scenarios with fMRI and found associations between self-reported attachment style and brain activation in regions associated with emotion, memory, and emotion regulation. Duncan and Bardacke (2010) investigated a formal adaptation of mindfulness-based childbirth and parenting (MBCP) and found increases in mindfulness and positive affect, as well as decreases in pregnancy anxiety, depression, and negative affect.

As part of the Shamatha Project, a study of the psychological, physical, and behavioral effects of meditation, participants on a three-month retreat were assessed for the two major dimensions of attachment security: anxiety and avoidance (Brennan, Clark, & Shaver, 1998), as well as Baer et al.'s (2006) five facets of mindfulness. Correlations between the two showed that anxious and avoidant participants were generally less mindful. More anxiously attached participants were less capable of maintaining a non-reactive, non-judgmental stance toward their experience. More avoidant participants were less able to notice their experiences and label them in words (Shaver et al., 2007).

Empathy and compassion are outcomes of mindfulness training and critical components of caregiving. Empathy entails the ability to share the affective experiences of others. Attachment security gives rise to empathy (Weinfield, Sroufe, Egeland, & Carlson, 2008), and a mother's capacity for empathy is essential for caregiving, the companion behavior system to the attachment behavior system (Bowlby, 1982),

especially before language develops (Lenzi et al., 2009). The capacity for empathy is rooted in the brain's mirror neuron system (MNS) which makes intersubjectivity possible (Iacoboni, 2009). The anterior insula part of the brain is also implicated in empathy (Singer et al., 2004). Evidence is also emerging for neural correlates of compassion. Klimecki, Leiberg, Lamm, and Singer (2012) observed that while participants reacted with negative affect in response to distress in others (i.e., empathy) after six hours of compassion training (loving kindness meditation), participants demonstrated brain activation in areas associated with positive affect, love, and affiliation consistent with Bartels and Zeki's (2004) work on maternal love.

Mikulincer and Shaver (2005) have been at the forefront of research, exploring plasticity as it pertains to attachment security and compassion. One study found that priming participants with a memory of someone who has loved, cared for, or protected them resulted in less negative reactions to out-groups. "Having a sense of being loved and surrounded by supporting others seems to allow people to open themselves to alternative worldviews and be more accepting of people who do not belong to their own group" (Mikulincer & Shaver, 2001, p. 110).

Mindfulness practice also has a positive impact at the community level. One such example is the Cultivating Awareness and Resilience in Education (CARE) program. This is a professional development program designed to reduce stress and improve teachers' performance, and includes a mindfulness component. Its aim is to improve social-emotional skills and well-being and consequently improve teachers' ability to maintain a positive classroom learning environment, avoid burnout and attrition, and

provide optimal social emotional and instructional support to their students. Jennings, Snowberg, Coccia, and Greenberg (2011) examined a CARE intervention with urban and suburban teachers. While results for suburban teachers were mild to none, results for urban teachers were significant. The most consistent significant effects were found among measures of mindfulness. A majority also reported improvements in their students' behavior and academic performance.

Mindfulness is also gaining traction on a national scale. Congressman Tim Ryan has begun a wider conversation about the benefits of mindfulness which can influence the growth inhibiting EEA that Schore (2012) wrote about. In his new book, *A Mindful Nation* (2012), Ryan describes a “quiet revolution” led by “heroes” who are “helping us gain a deeper understanding of what it means to be a human being and what a miraculous reservoir of ability we have to deal with the challenges of being alive in the 21st century” through mindfulness practices (p. 161).

Conceptual Framework

Einstein's call for an embrace of all living creatures is consistent with Bowlby's notion of the vital nature of the mother's embrace of the child and the lasting connectedness between them (as cited in Sullivan, 1972, p. 194). In essence, human connections shape neural connections. Psychoneurobiologically attuned parents beget securely attached, self-regulating children with optimal brain architecture who grow up to be psychoneurobiologically attuned parents or members of an ever-expanding network of attuned communities inclined to act in the best interests of children and families. Mindful awareness alters brain function, mental activity, and interpersonal relationships toward

well-being, attachment, self-regulation, and healthy brain architecture—in other words, psychoneurobiological attunement. (see Figure 1).

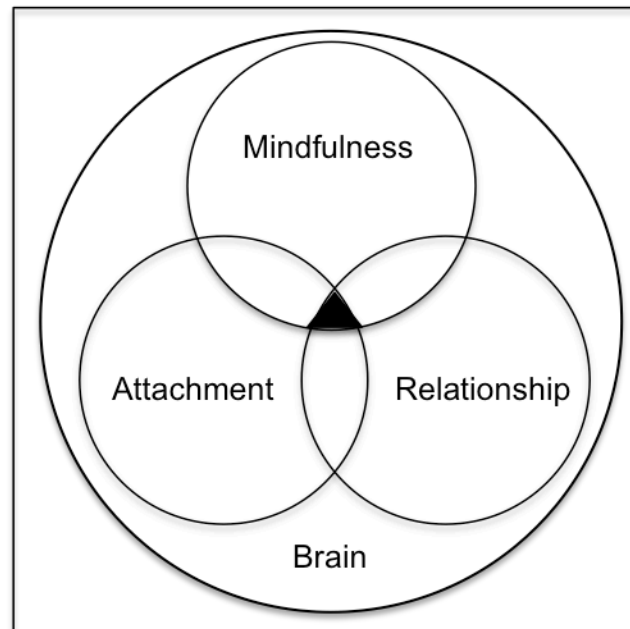


Figure 1. The conceptual framework of the intersection of attachment, relationship, brain development and plasticity, and mindfulness.

Problem Statement

Given the lifelong ramifications of a child's first experiences and relationships, this study concentrates on a gap in the literature regarding applications of mindfulness to parenting practices by exploring the implications of mindfulness practices for recently homeless mothers living in transitional housing amid multiple stressors and healthy relationships with their children.

Purpose

The purpose of this inquiry is to explore and subsequently describe the impact of mindfulness-based practice for mothers living in transitional housing and the nature of their parenting and relationships with their children.

Research Questions

The key questions are:

1. What are the perceived effects of mindfulness practices on the qualia of mindfulness, attachment-related strategies, and the nature of the parent-child relationship for mothers living in a transitional housing program?
2. What is the lived experience of these mothers in practicing mindfulness?
3. What relationships, if any, are evident between attachment-related strategies, mindfulness, and the nature of the parent-child relationship?

Definitions

The following terms as defined in this section will be used throughout this project.

Compassion, as defined by Halifax (2012), is

the emotion one experiences when feeling concern for another's suffering and desiring to enhance that person's welfare. Compassion is in general seen as having two main components: the affective feeling of caring for one who is suffering and the motivation to relieve suffering The intention to transform suffering is one of the features that distinguish compassion from empathy. (p. 1)

Emotional regulation is the ability to properly regulate one's emotions; a complex process that involves the initiating, inhibiting, or modulating internal states, emotion related thinking, embodied processes and behaviors.

Interpersonal neurobiology (IPNB) is, according to the Global Association for Interpersonal Neurobiology Studies (GAINS),

an interdisciplinary field that provides a “whole elephant” view of human functioning and flourishing. IPNB offers a comprehensive and scientifically grounded theory of mental health and of healthy relating, illuminating the ongoing interactions of the mind, the brain, and relationships. (GAINS, n.p.)

Maternal sensitivity is characterized by Ainsworth et al.’s (1978) description of the mother of a securely attached child as being “capable of perceiving things from [the child’s] point of view” and regarding her child “as a separate person; she also respects his activity in-progress and thus avoids interrupting him” (p. 43). Further, Meins (1997) coined the term maternal *mind-mindedness* to describe the

mother’s proclivity to treat her infant as an individual with a mind, rather than merely as a creature with needs that must be satisfied. The concept of mind-mindedness clearly captures the flavor of Ainsworth et al.’s distinction between sensitive and insensitive mothering. That is, the mind-minded mother is sensitive to the child’s “work-in-progress,” is willing to change her focus of attention in response to cues from the infant, and so on. (Meins, Fernyhough, Fradley, & Tuckey, 2001, p. 638)

Mindfulness-based practices refer to practices which engender “paying attention in a particular way: on purpose, in the present moment, and non-judgmentally” (Kabat-Zinn, 1994, p. 4). Most of the research on mindfulness has been focused on meditation; research of other practices, such as yoga, continues to expand.

Mother is used throughout this paper to indicate parent, primary caregiver, or attachment figure because most attachment research is based on mother-infant dyads. This is not to in any way diminish the important of father-child attachment. It is, however, outside the scope of this project.

Parent-child relationship is a combination of behaviors, feelings, and expectations that are unique to a particular parent and a particular child. The relationship involves the full extent of a child's development.

Psychoneurobiological attunement is the regulatory mechanism thought to mediate attachment bond formation via both members of the dyad being “on the same wavelength” (Field, 1985, p. 449 as cited in Schore, 2003, p. 12).

Transitional housing refers to temporary housing intended to provide a safe and supportive living environment for individuals and families as they transition out of homelessness to a more stable housing arrangement.

Summary

The salutary effects of mindfulness-based practices are a potential support mechanism of optimizing attachment relationships for mothers and their children who are experiencing multiple stressors in their transitioning from homelessness to reliable housing. Chapter 2 will present a review of the salient literature regarding attachment theory, mindfulness-based practices, and the neural correlates of attachment and mindfulness and mothering in the context of homelessness and transition.

CHAPTER 2. REVIEW OF THE SALIENT LITERATURE

“The earliest stages of humanhood are critical because they contain within them the representation of our possible futures – they model the potential developmental extension of our individual and collective social identities”

(Schore, 2001a, p. 4)

Overview

This chapter presents a review of the salient literature on attachment theory, attachment and mothering in the context of poverty and homelessness, and the salutary effects of mindfulness for the mother-child relationship. This first section is a summary of the chapter that will give the reader a framework for understanding how these topics interrelate.

Attachment theory traces its origins to the combined work of John Bowlby and Mary Ainsworth (Ainsworth & Bowlby, 1991). It is an empirically grounded model of human development that describes a deep and enduring affectionate bond between an infant and her primary caregiver that connects them across time and space (Bowlby, 1982). Attachment is a species-wide evolutionary adaptation which predisposes infants to seek proximity to and responsiveness from a primary caregiver in stressful or dangerous situations. Attachment comprises two behavioral systems: attachment and caregiving.

Mary Ainsworth (Ainsworth et al., 1978) described three types of attachment: secure (infant attachment needs are met), insecure-resistant, and insecure-avoidant (infant

attachment needs are not met). One of her students, Mary Main, described an additional type: insecure-disorganized/disoriented (Hesse & Main, 1999, 2000).

Allan Schore (2005) describes attachment as the dyadic regulation of emotion. At the outset, the mother attunes to and responds to the infant's needs. The infant shares the mother's regulatory caregiving matrix to regulate her own state changes and behavior. This is in part accomplished by the engagement of the MNS, which enables other-to-self mapping (Uddin, Iacoboni, Lange, & Keenan, 2007), social interaction, and the empathy and compassion vital to parenting that fosters well-being. Polyvagal theory (Porges, 2001) also informs attachment in that the vagal system makes proximity between human beings possible and allows for self-soothing without the biological cost of a full-fledged sympathetic response to perceived threats.

As the infant's sense of self (i.e., organization of attitudes, feelings, expectations, and meanings) emerges from the caregiving matrix. The infant develops lasting IWMs based on the experience of who her attachment figures are, where they are, and how they are likely to respond to her needs (Bowlby, 1976).

Attachment is a phenomenon that affects people from cradle to grave (Bowlby, 1973). George, Kaplan, and Main (1996) described adult attachment types as corollaries of Ainsworth's types—autonomous (secure), preoccupied (anxious), dismissing (avoidant)—and found that adult attachment types were predictive of their offspring's attachment types. Subsequent research has examined the reciprocal nature of attachment and caregiving in the context of romantic relationships (Hazan & Shaver, 1987), the

capacity for earned attachment (Hesse, 1999), and the relationships between attachment, compassion, and altruism (Mikulincer & Shaver, 2007).

Homelessness and poverty have a profound effect on mothers and children, including risk factors that pose challenges for attachment and ongoing parenting practices (Bassuk et al., 1996). When a mother's ability to self-regulate is compromised by the toxic stress of homelessness, the co-regulation function of attachment is also compromised (Vaughn et al., 1979).

Mindfulness practices (e.g., meditation, yoga) are ancient practices which have in recent years gained acceptance in the West based on research that show their salutary effects on stress reduction, pain management, enhanced immune function, and psychological health and well-being. The mechanisms of mindfulness include attention and emotion regulation, body awareness, changes in perspective of self, and increased compassion, which in turn support secure attachment and positive parenting behaviors (Hölzel, Lazar et al., 2011; Siegel, 2007b). Early parenting behavior has a vital impact on child development and enduring consequences for supervening stages of human development (Sroufe, Egeland, Carlson, & Collins, 2005).

Each of the preceding topics is addressed in detail in the sections that follow.

Attachment Theory

This section provides a summary of attachment theory: origins, major components, and implications for child and parent development.

Origins of Attachment Theory

Attachment theory describes a deep and enduring affectionate bond between the mother (primary caregiver and attachment figure) and the infant that connects them across time and space (Bowlby, 1982). An infant's first experiences and relationships play a critical role in the development of attachment. These early experiences sculpt a child's brain architecture and set developmental pathways that have lifelong implications for physical and psychosocial health (Ainsworth, 1965, 1978; Bowlby, 1982; Foley, 2010; Shonkoff & Phillips, 2000).

Fundamentally, the attachment system is a species-wide evolutionary adaptation of ground-dwelling primate infants, including humans, to form early attachments to the mother (attachment figure.) It functions as a protection mechanism and predisposes infants to seek proximity to and responsiveness from the mother in stressful or dangerous situations, thereby shaping IWMs and developmental pathways from cradle to grave (Bowlby, 1982; Main, Hesse, & Kaplan, 2005). In an optimal relationship, the infant's needs are met and the attachment system deactivates until the next need arises. Within this relationship, the child comes to know her primary caregiver as a secure base from which to explore, learn, and when necessary, as a haven of safety and a source of comfort

Attachment theory is the joint work of John Bowlby and Mary Ainsworth (Ainsworth & Bowlby, 1991) and has become a leading empirically grounded, theoretical model of human development, emotion regulation, parenting, and interpersonal relationships (Benoit, 2004; Cassidy & Shaver, 2008). It is an ethological (sub-topic of zoology—study of animal behavior) approach to development and draws on concepts

from cybernetics (the interdisciplinary study of the structure of regulatory systems), information processing, developmental psychology, and psychoanalysis. It is comprised of two major components: an attachment behavior system and a corresponding caregiving behavior system based on proximity between infant and mother and sensitive responsive care. When this relationship is going well, the infant develops a felt sense of security, safe haven, and secure base (Bowlby, 1988; Main & Solomon, 1986; Sroufe & Waters, 1977). On the other hand, separation, inadequate, or insensitive care typically lead to insecure attachment and higher levels of anxiety and avoidance in the child (Bowlby, 1988; Hazan & Shaver, 1987).

Both Bowlby and Ainsworth worked independently of each other in their early research and began collaborating when Ainsworth joined Bowlby's Tavistock laboratory in 1950.

Bowlby. Bowlby believed that parent-child interactions played a significant role in child development and that parents were likewise influenced by their early experiences with their own parents (Ainsworth & Bowlby, 1991). Bowlby himself witnessed the effects of long periods of maternal-child separation and or deprivation on the mental health of youth incarcerated for thievery (Bowlby, 1944), orphaned children left homeless by WWI (Bowlby, 1952), and hospitalized and institutionalized children (Bretherton, 1992).

After the publication of Konrad Lorenz's (1937) work on imprinting, Bowlby turned to ethology in search of an empirical basis for his theory under the guidance of Robert Hinde. His theory was further cross-pollinated and shaped by Melanie Klein and

Anna Freud (psychoanalysis), James Robertson, (social work) Erik Erikson (psychosocial development), Julian Huxley (evolutionary biology), Jean Piaget and Baerbel Inhelder (developmental psychology), Margaret Mead (cultural anthropology), Ludwig von Bertalanffy (general systems theory), and Colin Parkes (adult death, grief, and bereavement) (Ainsworth & Bowlby, 1991; Bretherton, 1992). In order to find new ways of thinking about mother-infant behavior, Bowlby delved further into animal research. He was greatly influenced by Harlow's (1958) work on maternal separation and social isolation in primates and the importance of caregiving in social and cognitive development. In one of his experiments, Harlow separated infant rhesus monkeys from their mothers and placed them with two types of *mother machines*, one wire and one cloth, the latter being covered to be a closer representation of an actual mother monkey. Monkeys sought comfort from the cloth surrogate in the absence of food as opposed to the wire surrogate even when it provided food. Monkeys clung to the cloth-covered surrogate in response to fearful stimuli and exhibited separation distress. The monkeys also appeared to use the cloth surrogate as a secure base for exploration. This proximity-seeking behavior was supported Bowlby's belief that the attachment system was separate from basic needs like food.

By the early 1960s, Bowlby had established a basic blueprint of attachment theory (Bretherton, 1992), which was very controversial at the time. Bowlby (1982) later described attachment as a "lasting psychological connectedness between human beings" (p. 194) influenced by genetic and environmental interactions (Bowlby, 1973).

Ainsworth. Prior to joining Bowlby's research team at Tavistock Clinic, Mary Ainsworth completed her graduate studies in Canada. There, William Blatz introduced her to security theory. This theory posits that infants develop a dependence and sense of security based on their parents' accessibility and care; as a result, the parent becomes a secure base from which an infant can explore and learn from the environment until they can develop an independent sense of security (Ainsworth & Bowlby, 1991). This notion of security greatly influenced Ainsworth's work.

Ainsworth's major contributions to attachment theory came after leaving Bowlby's lab at Tavistock Clinic. Her longitudinal studies in Uganda and Baltimore lent empirical support to Bowlby's theoretical constructions. In Uganda, she studied the development of infant-mother attachment by conducting extensive interviews and observations of Ganda mothers and infants for a period of up to nine months. She was the first to find a correlation between maternal sensitivity to infant signals and infant attachment; sensitive mothers tended to have securely attached infants and less sensitive mothers tended to have less securely attached infants. In 1963, Ainsworth began naturalistic observations of families in Baltimore. She found remarkable differences in the sensitivity, appropriateness, and promptness of mothers' responses to their children. This led to the development of a novel methodology, which made it possible to test infant attachment at about one year of age

Individual Differences in Attachment

During the 1970s, Ainsworth developed the *strange situation*, a 20-minute procedure consisting of eight episodes; the infant and an attachment figure (in

Ainsworth's studies and most others, the infant's mother) are observed as they respond to an unfamiliar setting, to the approach of a stranger, and two separation and reunion sequences between the infant and mother. The type of attachment an infant develops is determined by the caregiver's response to the infant when her attachment system is activated by threat to feelings of safety and security. Three organized attachment types resulted from observations of strange situation reunion behavior and extensive home visits: secure, insecure-avoidant, and insecure-resistant (Ainsworth et al., 1978). Each attachment pattern has its own characteristics, associated behaviors, and implications for later development.

Seeking proximity and bodily contact with the mother at reunion characterizes secure attachment. The secure infant calms within a few minutes of the reunion and returns to exploratory behavior, using the mother as a secure base. Ainsworth et al. (1978) suggested that a securely attached infant tends to be more cooperative and willing to act in accordance with the mother's direction, extending, in an ethological sense, the protective nature of the relationship. Secure infants appeared more positive and outgoing towards unfamiliar adults. They were described as more competent based on their tendency to explore more confidently and thereby learn about the most important features of their environments— qualities that are advantageous in social and cognitive development (Ainsworth et al., 1978, p. 314). Bell and Ainsworth (1972) concluded that “an infant whose mother's responsiveness helps him to achieve his ends develops confidence in his own ability to control what happens to him” (p. 1188).

Mothers of insecure-resistant anxious infants were distinguished by their unpredictable, inconsistent responses to infant signals. These infants demonstrated more separation anxiety than securely attached infants and became intensely distressed, presumably because of uncertainty about the mother's return. These infants protested when their need for bodily contact was out of sync with their mothers' actions (i.e., mother attempted to pick infant up when she was not ready and especially when the mother put the infant down before the infant was ready). Anxiously attached infants were easily frustrated, angry, and clingy, and seemed unable to use their mothers as a secure base for exploration. Ainsworth et al. (1978) suggested that these infants might develop more slowly than the other two groups as a result of overreliance on mothers and reluctance to learn through exploration. These infants were also thought to be less competent problem solvers.

Mothers of insecure-avoidant infants were rejecting, frequently angry, and irritable with their infants. They were characteristically inflexible and averse to physical contact with their infants. Avoidant infants experienced frequent separation distress at home, yet they exhibited little or no distress during the strange situation. Instead, they tended to ignore and avoid their mothers and often averted their eyes to limit interactions. Like insecure-resistant infants, they lacked confidence in their mothers' accessibility and responsiveness. They demonstrated fewer exploratory behaviors than secure infants (but more than anxious infants). Avoidant infants were less cooperative, inappropriately aggressive, and detached in interpersonal relationships. Ainsworth et al. (1978) credit Mary Main with more extensive study of the avoidant classification and attributed its

conspicuous characteristics to the notion that the attachment system does not shut off properly or at all—the infant rarely experiences the soothing behaviors that lead other classifications to achieve proximity and responsiveness.

In later research, Hesse and Main (1999, 2000) proposed that fear of the parent could account for a third type of attachment behavior, *insecure disorganized/disoriented*. In this type of attachment, the safe haven the infant needs in times of distress is simultaneously a source of fear and alarm, which inhibits the development of coherent organized coping strategies. In this type, the parent displays uncharacteristic behaviors (e.g., frightening, frightened, erratic, dissociated, sexualized) during interactions with their children and these behaviors are not limited to occasions when the child is distressed (Lyons-Ruth, Bronfman & Parsons, 1999). Disorganized attachment constitutes a risk factor for a range of psychopathologies, and according to van Ijzendoorn, Schuengel, and Bakermans-Kranenburg (1999), approximately 15% of infants in low psychosocial risk situations and as many as 82% of those in high-risk situations do not use any of the three organized strategies discussed earlier. One factor which might contribute to disorganized attachment is a major loss or other trauma experienced by the mother shortly before or after the birth of the infant (Main & Hesse, 1993). Sixty percent of infants born to a group of 15 mothers who experienced the death of an important person before completing high school accompanied by unresolved grief, exhibited disorganized attachment.

Self as Organization

Alan Sroufe (1990) developed a model to explicate the critical role of the infant's first experiences and relationships in the development of the *self*. He conceptualizes the

self as an organizing entity, arising from organization, and influencing ongoing organization:

Self should be conceived as organization of attitudes, feelings, expectations, and meanings, which arises itself from an organized caregiving matrix (dyadic organization that exists prior to the emergence of the self) and which has organizational significance for ongoing adaptation and experience. (Sroufe, 1990, p. 281)

Sroufe (1990) builds a persuasive case for the way the self originates in the infant-caregiver dyad and emerges from the caregiving matrix. Through a process of *hierarchical integration*, earliest behavior accumulates with successive behavior into more complex forms, from dyadic organization and behavior regulation to self-regulation. In dyadic organization, the infant depends on the mother to regulate her challenges, state changes, and behaviors. As the infant self-emerges from this organization, she begins to self-regulate, and because this is a progression, her self-regulation takes on an essence of its dyadic origin. Likewise, this concordance continues into the future. “What begins as an environment/organism organization becomes a self/environment organization” (Sroufe, 1990, p. 293).

Bowlby called the internal organization of states, emotions, behaviors, and early patterns of relating with her mother and others—IWMs. By 10 to 12 months the infant’s behavior is organized enough around the caregiver for greater exploratory behavior. Goal-directed behavior and evidence of mental models also become more organized at this time. By 18 to 36 months toddlers are more autonomous and, as Sroufe (1990) points out, perspective taking and empathy continue to emerge as does goal-corrected behavior

(i.e., behavior updated in response to feedback as to how well a goal has been met)

(Bowlby, 1982).

Stroufe (1990) notes that based on this organizational perspective of the self, there may be age-sensitive times for attachment. For example, early maternal rejection may not have the same consequences as rejection at six months. When the infant is able to make the connection between her careseeking behavior and her mother's rebuff, avoidant behavior is evident after six months. Anxious/resistant behaviors may arise earlier as they are based on the inconsistency of maternal access and response which the infant experiences from birth.

The stress response is one example of state regulation emerging from the caregiving matrix. Maternal stress has a negative effect on infant stress regulation. O'Connor, Bergman, Sarkar, and Glover (2012) noted that decades of animal studies and several years of human research support the role of the hypothalamic-pituitary-adrenal (HPA) axis in child development and hypothesized that early stress may program HPA functioning in offspring. The authors tested cortisol levels in amniotic fluid, salivary cortisol levels after birth, and strange situation separation-reunion stress at 17 months. Elevated prenatal stress exposure predicted higher initial cortisol levels and a dampened response to acute separation-reunion stress. In contrast, attachment type did not predict infant cortisol response nor did it moderate the link between prenatal exposure and infant cortisol reactivity (O'Connor et al., 2012).

Bernard and Dozier (2010) collected saliva samples from infants under three conditions: at home, arrival at lab, and intervention. This study was unique in the

inclusion of at home and lab arrival measures; these levels were taken to account for any effect of travel. The authors varied the order of tasks in the lab; half the infants participated in the strange situation first followed by free play and a second group experienced the same tasks in reverse order. They found a relationship between attachment and task; organized infants did not show cortisol reactivity, whereas disorganized infants showed increased cortisol in response to the strange situation compared with play.

In an effort to shed light on the physiologic underpinnings of the strange situation, Spangler and Grossman (1993) classified the attachment types of 41 infants using the strange situation and measured the infants' cardiac activity via EKG, logged signs of negative emotions, and obtained salivary cortisol. Regardless of attachment type and appropriateness of the behavior strategies exhibited, there was no increase in heart rate during an infant's separation from the mother. While insecure-avoidant infants did not demonstrate overt distress during separation, overall cardiac measures indicate arousal patterns similar to the secure infants. In addition, both insecure-avoidant and disorganized infants showed cortisol increases in comparison to secure infants. Infants with these two types of attachment may lack an appropriate coping strategy. These studies underscore the importance of maternal care and the attachment relationship in infant.

Attachment as Regulatory System

Allan Schore (2005) defines attachment as the "dyadic regulation of emotion," consistent with research which concludes that "attainment of an attachment bond of

emotional communication and the maturation of affect represent the key events in infancy more so than does the development of complex cognitions” (p. 205). In the beginning of their life together the mother “constructs an organized matrix around infant behavior and state changes” (Sroufe, 1990, p. 283). By the end of the second year the child of an emotionally responsive primary caregiver can access a mature frontolimbic system that can autoregulate autonomic and endocrine functions in the presence and absence of the mother (Schoore, 1994).

Schoore (2000b) characterized mother-infant attachment interactions as right brain to right brain, unconscious nonverbal mind-body communications. The mother uses her right brain to tune in, monitor, and respond to changes in the infant’s internal state. The infant in turn uses the mother’s right brain emotion regulation as a template for imprinting. This back-and-forth, in turn, facilitates the experience-dependent growth and development of the infant’s right brain. As noted earlier, this mutual regulation of affect plays an important role in the emergence of self-regulation (Feldman et al., 1999).

The Mirror Neuron System

V. S. Ramachandran (2007) predicted that “mirror neurons will do for psychology what DNA did for biology: they will provide a unifying framework and help explain a host of mental abilities that have hitherto remained mysterious and inaccessible to experiments” (p. 1). The MNS is essential to attachment and mindfulness in that it is the basis of social interaction. Gallese (2008) writes, “Besides and before being mind readers, we are fundamentally behavior readers” (p. 775).

Uddin et al. (2007) proposed that the MNS enables physical mapping of other-to-self. Mirroring is an efficient way of sharing and understanding the mental states of others. Italian scientists Rizzolatti, Fadiga, Gallese, and Fogassi (1996) discovered mirror neurons in their work with macaque monkeys. The authors found that when a monkey performed an action such as picking up a peanut, and when it observed the experimenter picking up a peanut, the same neurons fired in the monkey's brain. The same phenomena occurred with facial gestures (Ferrari, Gallese, Rizzolatti, & Fogassi, 2003), and object-related sound (Kohler et al., 2002).

The presence and function of mirror neurons in animal models is well understood. Early human research showed indirect evidence of mirror neurons in humans pertaining to learning new skills by imitation (Iacoboni & Mazziotta, 2007), social interaction (Schippers, Roebroek, Renken, Nanetti, & Keysers, 2010), detection of action intentions (Iacoboni et al., 2005), and involvement in empathy, which is associated with mindfulness (Decety, 2010; Gallese, 2003; Preston & de Waal, 2002). Mukamel, Ekstrom, Kaplan, Iacoboni, and Fried (2010) were the first to directly record mirror neurons in humans. They placed electrodes in the brains of patients undergoing procedures for epilepsy to record neuron firing and showed that the same mirror neurons activated when people imitated or observed facial expressions and hand-grasping actions.

Gallese (2009) theorized that action-observation or emotion-observation automatically trigger an action simulation which is understood by means of an embodied simulation (experience-based v. cognitive), producing a shared body state, an identification with other people, that then enables direct understanding of another

(Gallese, 2005). Embodied simulation generates our internal attunement and a “we-centric space” which in turn is used to “detect and incorporate coherence, regularity, and predictability in the course of the interactions with others” (Gallese, 2009, p. 528).

This we-centric space refers to the instance when one person’s action, intention, or emotion registers with an observer as if that observer too was experiencing the same event, just the way Rizzolatti et al.’s (1996) monkeys did. Ultimately this mirroring mechanism enables social connectedness. The we-centric space Gallese describes shares similarities with Sroufe’s (1990) notion of the caregiver matrix from which the self emerges and Schore’s (2001b) right brain to right brain model of attachment. The notion of embodied simulation also shares common themes with IWMs.

To sum up, what is distinctive about the mirror mechanism driven embodied simulation is that people reuse their own mental states or processes in functionally attributing them to others, where the extent and reliability of such reuse and functional attribution depend on the simulator’s bodily resources and their being shared with the target’s bodily resources. (Gallese & Sinigaglia, 2011, p. 8)

Goleman (2011) writes, “The core skill in social awareness is empathy ... [and] empathy is an essential building block for compassion” (p. 61). Iacoboni (2009) describes the link between the MNS and empathy. “Neural mirroring solves the ‘problem of other minds’ (how we can access and understand the minds of others) and makes intersubjectivity possible, thus facilitating social behavior” (Iacoboni, 2009, p. 653). And “good imitators should also be good at recognizing emotions in other people, which in turn may lead to greater empathy” (Iacoboni, 2009, p. 656).

The areas of the brain that activated when participants imitated or observed emotional facial expressions led researchers to conclude that the neural substrate of

empathy is a component of a network made up of the MNS, the insula, and the limbic system (Carr, Iacoboni, Dubeau, Mazziotta, & Lenzi, 2003).

Internal Working Models

IWMs make it possible for an infant to anticipate maternal responses to her signals and state changes. They also govern her sense of self and sense of others. As she becomes more autonomous, IWMs inform her expectations for how relationships and the physical world work (Bowlby, 1988). Bowlby (1973) wrote:

In the working model of the world that anyone builds, a key feature is his notion of who his attachment figures are, where they may be found, and how they may be expected to respond. Similarly in the working models of the self that anyone builds a key feature is his notion of how acceptable or unacceptable he himself is in the eyes of his attachment figures.... As a result the model of attachment figure and model of the are likely to develop so as to be complementary and mutually confirming. (pp. 203-204)

Meins (1997) coined the term *mind-mindedness* to characterize a mother's attention to and understanding of her infant's mental states and her treatment of the infant as an individual with a mind, rather than merely as a living thing with needs that must be met. Meins et al. (2001) associated mind-mindedness and IWMs as a predictor of infant security. The authors measured mothers' tendencies to attribute intention to their infants' changes in gaze or object-directed activity. They also measured the mothers' tendencies to imitate their infants' vocalizations and to encourage autonomy. Mothers' ability to comment appropriately on their six-month-old infants' psychological states and processes was the only significant predictor of infants' attachment security via strange situation at 12 months. The authors suggest that a

mother's tendency to frame interactions in terms of her infant's desires, intentions, beliefs, and emotions may provide us with a naturalistic measure of the mother's internal working model of self with child, just as the AAI provides a measure of one's internal working models of self with parent. (Meins et al., 2001, p. 646)

When the mother is consistently available and responsive, the infant develops expectations and “confidence that others will be helpful when appealed to becoming increasingly self reliant and bold in [her] explorations of the world, cooperative with others and sympathetic and helpful to others in distress” (Bowlby, 1988, p. 82). These internal models “shape cognitive processing of social information, the appraisal of important changes in the internal and external environments, and the selection of social behaviors” (Shaver et al., 1996, p. 46) into adulthood (Fraley, Vicary et al., 2011).

Between their second and third years, toddlers begin to relate to their caregivers in a different way. Whereas the attachment relationship is goal directed up to this point (i.e., the attachment system engages to reach the goal of a safe haven), securely attached toddlers turn their attention to the external environment, explore more, and engage with their peers. Relationships with attachment figures become more complex, and toddlers start to recognize the goals and plans of their adults. Growing reciprocal interactions benefit both the child and the adult. A parallel process takes place between adult pairs (Hazan & Zeifman, 1999). Over time, visible bond-promoting behaviors ebb as a quiet emotional interdependence grows. “A goal-corrected partnership – in childhood as well as adulthood – serves as a base of security from which to operate in the world” (Hazan & Zeifman, 1999, p. 351).

Securely attached children have working models that appear to result in being better liked by peers in both middle and low socioeconomic groups (LaFreniere & Sroufe, 1985), being rated by teachers as more competent with peers and possessing constructive coping behaviors (Contreras et al., 2000), and fewer behavior problems (Erickson et al., 1985). Longitudinal studies comparing attachment in infancy and peer relations in middle childhood (Elicker et al., 1992; Grossmann & Grossmann, 1991) show similar results. In comparison, a child who has been rejected in the context of her family is likely to behave in ways that lead to further rejection by her peers while being strikingly more dependent on teachers (Collins et al., 1995; Sroufe & Siegel, 2011).

Romanian orphans offer a profound example of the effects of early deprivation, disordered attachment, and its potential reversibility after adoption. Zeanah, Smyke, Koga, and Carlson (2005) compared attachment in institutionalized children to community children (12-31 months) using the strange situation. Institutionalized children experienced higher levels of reactive attachment disorder (RAD) than did the group of community children. Only 22% of institutionalized children demonstrated organized attachment strategies in interactions with their *favorite* caregivers compared to 78% of community children who demonstrated organized attachments to their mothers. Further, “12.6% of the institutionalized group had so little attachment behavior that it could not even be classified disorganized, and instead received a designation of unclassifiable” (Zeanah et al., 2005, p. 1020). Smyke, Dumitrescu, and Zeanah (2002) examined attachment in orphaned children from two different units within one institution in Romania. The authors found that when the number of caregivers assigned to a child over

the course of a week was reduced from 17 to four, children showed significantly fewer signs of RAD. Similarly, internationally adopted children who experienced fewer pre-adoption placements had higher attachment security (Niemann & Weiss, 2012). Both studies underscore the importance of a few consistent caregivers in affective development and attachment.

Fries and Pollak (2004) examined the effects of early deprivation on children who experienced institutionalized care prior to international adoption into family environments by looking at the children's ability to identify basic emotional expressions and match them to appropriate emotional and social contexts, compared to children living with their biological parents. Children were asked to indicate the feelings experienced by the protagonist in a series of stories. As predicted, post-institutionalized children had difficulty matching illustrations of facial expressions of happy, sad, and fearful to the story scenarios. When presented with the same illustrations and asked to select the happy, sad, mad, or scared faces, post-institutionalized children had significant difficulty making the congruent choice. However, post-institutionalized children performed as well as comparison children when asked to identify and match angry facial expressions. Despite the complex array of developmental, medical, and behavioral issues internationally adopted children face, "most of them exhibit remarkable catch-up growth and development within months after arriving home" (Miller, Chan, Reece, Tirella, & Pertman, 2007, p. 378) due to post-adoption experiences (Gunnar, Bruce, & Grotevant, 2000).

In summary, attachment theory emphasizes:

- Vital impact of early parent behavior, especially the mother figure, on child development and its lifelong implications,
- Primacy of affectionate emotional bonds between attachment and caregiving behavior systems, organized by a biological feedback (cybernetic) system that enables give and take needed for changes in behavior,
- Notion of developmental pathways based on early experiences which, as a consequence and instigator, lay the foundation for all that follows (Bowlby, 1988), and
- Internal working models.

With regard to this third point, Bowlby (1973) dedicates a chapter in *Attachment and Loss* to the notion of developmental pathways. Contrary to the idea that development moves along one track where forward progress stops or regresses in the face of stress, Bowlby proposed, based on epigenetics, that at the beginning of life there may be a number of tracks fairly close together as a result of genetic, environmental, and experiential factors. Bowlby (1973) suggests that like a system of train routes, developmental pathways diverge and converge based on how conditions unfold. Based on earlier descriptions of attachment classifications, a developmental path might look like the following example: A securely attached infant is traumatically separated from her mother, subsequently develops characteristics of insecure attachment, eventually develops a secure attachment with another adult and then a secure romantic partner,

ultimately becoming an autonomous adult and flexible parent (Ainsworth et al., 1978; Bowlby, 1952; Solomon & George, 1999).

Polyvagal Theory

The vagal system plays an important role in attachment. When the vagal system is *on* in parents and children, both share a deep open space of social engagement and the uniquely human form of communication Trevarthen calls *intersubjectivity* (Trevarthen & Aitken, 2001). And when stressors arise, mother and child are able to adjust quickly back to an equanimous state without the biological cost of going into a full-fledged sympathetic response.

Porges (2001) developed the polyvagal theory, which proposes that the vagus nerve communicates between the heart and the brain. It affects responses on a spectrum from threat at one end to social engagement and bonding on the other. In more technical terms, “the evolution of the mammalian autonomic nervous system provides the neurophysiological substrates for the emotional experiences and affective processes that are major components of social behavior” (Porges, 2001, p. 126). Porges (2003) notes that individuals have to be in close proximity to develop a social bond; “proximity is totally caused by the ability to navigate across physical distance via voluntary behavior” (p. 33), and the vagal system serves this purpose in infant attachment by reducing social distance through facial expressions, eye gaze, vocalizations, and head orientation. In addition, this system fosters engagement and disengagement (approach and avoid) with the environment through the regulation of the parasympathetic nervous system. This social nervous system functions from at least birth, is evident as healthy infants engage

with caregivers via facial expressions and vocalization, and can be measured via related systems that represent the operationalization of vagal tone (e.g., respiratory sinus arrhythmia [RSA]). Mammals have a unique vagal signaling system (Ventral Vagal Complex) which can be initiated without the biological cost associated with sympathetic-adrenal (fight or flight) action (Porges, 2001).

Polyvagal theory (Porges, 2001) is consistent with the co-regulatory nature of the mother-infant interactions found in the classic *still face experiment* (Tronick, Als, Adamson, Wise, & Brazelton, 1978). In this study, mothers engaged in two types of behavior with their infants (one to four months): playing with them on one occasion, and looking at their infant with a neutral still face on another. Infants actively engaged in play with mothers and adjusted their communicative displays in response to the mothers' feedback. Infants were likewise affected by the contradiction between the mothers' seemingly engaging presentation (looking at the infants) and their incongruous unresponsive still face. Initially, infants responded to the still face condition by attempting to reestablish reciprocal interactions. Eventually the infants stopped trying and withdrew, reminiscent of Bowlby's (1982) description of children separated from their caregivers.

Tronick et al. (1978) concluded that the co-regulatory function of reciprocal social interaction is an integral part of early affective well-being. Bazhenova, Plonskaia, and Porges (2001) conducted a study which employed design features from still face and polyvagal theory. Five-month-old infants were presented with an object (toy), the researcher's still face, and a positive social interaction. The data showed increasing

parasympathetic (rest and digest) activity from toy attention to still face to positive social interactions, demonstrating that infants drew more comfort from positive social interaction than from the two other options. Further, behavioral engagement and disengagement are mediated by the autonomic nervous system and covary with activation (calming and self-soothing) and deactivation (mobilizing and communicating) of the vagal brake to the heart. The study concluded that infants with efficient vagal regulation removed the vagal brake to rapidly increase cardiac output needed for mobilization in reaction to the stressful challenge without activating the sympathetic-adrenal system. And by rapidly reapplying the vagal brake, infants were able to decrease metabolic output, self-soothe, calm, and engage during the social interaction condition.

Infants who were inefficient vagal regulators removed the vagal brake in response to the stressful challenge but were not able to adequately put the brakes on sympathetic reactivity. Negative affect did not decrease, and these infants were unable to self-soothe behaviorally and physiologically calm themselves quickly enough to sustain positive engagement. The study further suggested that

infants with a well-regulated vagal system may pay a lower biological or metabolic “price” for emotional adjustment, as evidenced by a quick recovery ... Thus, the efficient vagal regulators would dynamically reduce and recover positive engagement in response to environmental challenges, whereas the inefficient vagal regulators would be less flexible and effective in coping. (Bazhenova et al., 2001, p. 1324)

Tronick et al. (1998) proposed the *dyadic expansion of consciousness* hypothesis based on the *mutual regulation model* of infant-adult interaction. The authors argued that each individual (in this case mother and infant) is a self-organizing system that creates its

own psychobiological states. These states can be expanded in collaboration with another self-organizing system to create mutually regulated dyadic states of affective function. Further, Tronick et al. (1998) suggested that when emotional regulation goes well, so does infant development. However, long term, “failure to achieve connectedness [has] a damaging effect on the mental health of the infant” (Tronick et al., 1998, p. 292). Bornstein and Suess’ (2000) study provides an example of mutually regulated dyadic states of affective function. The authors measured vagal regulation in mother-child dyads at two months and five years of age. Their findings indicated that mothers’ vagal regulation remained stable over the five-year period. They also found vagal regulation increases with age/development (two months to five years), and vagal tone is likely not heritable. Bornstein and Suess (2000) cite Healy’s (1992) work, which suggests that while there may be a genetic basis for heart rate, differences in the vagal tone in twins indicated that these measures may be influenced more by environmental factors. Additionally, Bornstein and Suess (2000) found that vagal regulation was concordant between child and mother: “this concordance suggests that, by 5 years, child and mother develop a shared characteristic response style that is reflected in similar patterns of vagal regulation to environmental challenges” (p. 63).

Adult Attachment

Bowlby (1973) conceived of attachment as a system which remained important throughout life, “from cradle to grave” (p. 82), and noted few differences between attachment relationships in infancy and adulthood (e.g., partner to partner or adult child to parent).

Human beings of all ages are found to be at their happiest and to be able to deploy their talents to best advantage when they are confident that, standing behind them, there are one or more trusted persons who will come to their aid should difficulties arise. The person trusted provides a secure base from which his (or her) companion can operate. (Bowlby, 1973, p. 359)

One major difference in adult relationships is in their reciprocal nature; adults in relationships shift between attachment and caregiving roles as needed (Ainsworth & Bowlby, 1991; Hazan & Shaver, 1987).

Mary Main developed a procedure for exploring classification of attachment in adulthood. The Adult Attachment Interview (AAI) is a series of questions asked of adults about their early experiences, attachment relationships, and perceptions about how early experiences affected their development. Three corresponding adult classifications were identified and are consistent with Ainsworth's infant classifications: autonomous (secure), *preoccupied* (anxious), and dismissing (avoidant) (George et al., 1996). In addition, these adult classifications were found to be predictive of infant attachment prior to birth (Fonagy, Steele, & Steele, 1991). These findings are consistent with Bowlby's (1973) consideration of parenting as an extension of attachment shaped by the way parents were treated as children by their own caregivers

Hazan and Shaver (1987) explored adult attachment in romantic relationships. They found fundamental similarities between romantic love and attachment and the caregiving behavior systems responsible for the caregiver-infant bond. Internal working models of self and others, early experiences in relationship with parents, as well as earned security and revised mental models accounted for corresponding adult attachment types. Adults draw on memories of someone who loved, cared for, or protected them, and their

resulting optimistic and constructive attitudes (Bowlby, 1988; Mikulincer & Florian, 1999) to quickly recover from a stressful event and reestablish a sense of equanimity. Also of interest was the comparable distribution of self-rated adult attachment types and Ainsworth's strange situation results: approximately 60% secure, 20% avoidant, and 20% anxious-resistant (Hazan & Shaver, 1987). Subsequent work by Brennan et al. (1998) on self-report measures of adult attachment resulted in a two dimensional model of attachment types derived from Ainsworth et al.'s (1978) discriminant analysis—avoidance (discomfort with closeness and dependency - x axis) and anxiety (about abandonment - y axis).

Later, Bartholomew and Horowitz (1991) labeled the four quadrants created by Hazan and Shaver's (1987) model (secure, preoccupied, fearful avoidant, and dismissing-avoidant) incorporating Main, Kaplan, and Cassidy's (1985) dismissing type. In this model a securely attached person is typically low in anxiety and avoidance, meaning they worry little about partner/parent availability and responsiveness, and are comfortable with openness and interdependence (e.g., being and using others as a safe haven). Bartholomew and Horowitz (1991) later adjusted the two dimensions to reflect *model of self* and *model of others*, connoting the relationships between positive model of self with low anxiety and positive model of others with low avoidance. A large scale factor analysis of 60 subscales of all available self-report attachment measures was conducted (Brennan et al., 1998). In the final analysis, attachment-related dimensions reduced to two factors common to nearly all self-report measures of adult romantic attachment: avoidance and anxiety. Brennan et al.'s (1998) study resulted in the Experiences In Close

Relationships (ECR) instrument. It has since been revised (Fraley, Waller, & Brennan, 2000) and remains one of the most commonly used instruments today (Ravitz, Maunder, Hunter, Sthankiya, & Lanci, 2009).

Shaver et al. (1996) suggest that attachment is a hierarchical network with three broad levels: (a) generalized models of self and others which can be employed to a variety of relationships; (b) models specific to types of relationships (e.g., parent-child, friend-friend); and (c) models specific to individual relationships. The network is dynamic as specific early child-parent attachments produce generalized IWMs of self and others which then shape specific models of future relationships, and so on. Each new relationship becomes an opportunity for further change.

Fraley's recent longitudinal studies (Fraley, Heffernan et al., 2011; Fraley, Vicary, Brumbaugh, & Roisman, 2011) are consistent with the notion of attachment as a network. These studies assessed individual attachment styles in different kinds of relationships (mothers, fathers, romantic partners, best friends, and global) over varying periods of time period (once a day over 30 days or weekly over 12 months). Analysis demonstrated stability underlying temporary variations in attachment-related to person and life events. In one case a participant showed higher attachment-related anxious avoidance with parents (mother higher than father) and less anxious avoidance with partner and best friend. Another participant demonstrated less anxious avoidance in all four relationships. However, upon experiencing a break-up, an increase occurred in romantic attachment anxious avoidance.

Transition to Parenthood

The birth of a first child is a major transition in life, and one of the happiest, most stressful, and most life-altering events that most people ever experience (Cowan et al., 1985; Heinicke, 2002). Attachment theory is relevant to this transition in terms of ecological factors and individual pre-existing tendencies. The way a person views herself and significant others over the life course is dramatically influenced by the quality of caregiving received early in life. As described earlier these experiences shape working models which then point the way for how one thinks, feels, and behaves in future relationships (Bowlby, 1973). Securely attached people fare far better in the transition to parenthood than do insecurely attached people. Simpson, Rholes, and Shallcross (2012) state Bowlby (1988) hypothesized: “increases in depressive symptoms should occur when vulnerable people (e.g., highly anxious women) confront stressors that strain their relationships” (p. 380). Further, the authors conclude that “highly anxious individuals place great value on their relationships (Hazan & Shaver, 1987) and they anchor their self-concepts on the quality and well-being of their relationships (Campbell, Simpson, Boldry, & Kashy, 2005; Crocker & Wolf, 2001)” (Simpson et al., 2012, p. 381). It follows then that women’s transition to parenthood would be complicated by perceptions that their partner cannot or will not provide care and support.

Caregiving

As described earlier, the central organizing function of the attachment system is careseeking by a vulnerable, less experienced person toward someone perceived as stronger and wiser (Bowlby, 1988). The caregiving system was conceived by Bowlby

(1982) as the counterpart of the attachment system. Caregiving has the twofold function of providing a safe haven to protect and to reduce another person's suffering in times of need and providing a secure base to foster exploration, autonomy, growth, and development (Ainsworth et al., 1973; Gillath, Shaver, & Mikulincer, 2005; George & Solomon, 1999; Kunce & Shaver, 1994).

An adult caregiving system is shaped by early experiences. When the caregiving system develops in an environment of parents and other adults who are accessible, reliable, and model safe havens and secure bases, a child is likely to behave in empathetic, compassionate, loving, generous ways, and to respond prosocially to the needs and suffering of other people or creatures. When caregiving systems do not develop under favorable conditions, a child is likely to act from a place of insecurity, insensitivity, and defensiveness (Mikulincer & Shaver, 2007).

When the mother recognizes a legitimate infant need, the caregiving system is activated, and as the infant signals increased security the caregiving system typically deactivates until the next need arises. When a mother does not have the necessary security, she becomes preoccupied with finding it and has little energy left for monitoring and attending to her infant's needs.

Solomon and George (1999) describe the "hallmark of caregiving associated with attachment security (flexible care) [as] a mother's commitment to finding a way to integrate and balance her own behavioral systems (i.e., her multiple roles and own attachment needs) with those of her child" (p. 662). Their research showed flexible mothers evaluated multiple factors with regard to the care they provided, including the

situation, child's temperament and developmental needs, parenting goals, and their own needs (Solomon & George, 1999). In contrast, mothers of avoidant and anxious/ambivalent children demonstrated conditional caregiving behaviors. Mothers of avoidant children emphasized negative aspects of their relationship and devalued their children's attachment needs. Caregiving by mothers of anxious children was characterized by confusion and uncertainty; they tended to overemphasize caregiving and promoted dependency while at the same time appearing disconnected (Solomon & George, 1999).

Rewiring for Compassion and Caregiving

Mikulincer and Shaver (2007) suggest empathy and compassion are essential aspects of caregiving and "attachment security provides a foundation for compassion and caregiving, whereas two major forms of attachment insecurity interfere with compassionate caregiving" (Mikulincer & Shaver, 2005, p. 37). Goetz, Keltner, and Simon-Thomas (2010) define compassion as "the feeling that arises in witnessing another's suffering and that motivates a subsequent desire to help" (p. 351), the primary function of which is to reduce suffering and protect vulnerable people (Lazarus, 1991). Empathy, on the other hand, refers to the "vicarious experiencing of another's feelings" (Lazarus, 1991, p. 288). Further, a review by Goetz et al. (2010) concludes that compassion is a distinct phenomenon with "distinct appraisal processes attuned to undeserved suffering; distinct signaling behavior related to caregiving patterns of touch, posture, and vocalization; and a phenomenological experience and physiological response that orients the individual to social approach" (p. 351).

Phillip Shaver and Mario Mikulincer have been at the forefront of research exploring plasticity as it pertains to attachment security, compassion, and altruism. They conducted a series of studies about compassion and altruism based on attachment behavior. In times of uncertainty or stress, securely attached adults rely on IWMs of attachment established in childhood. They draw on memories of someone who loved, cared for, or protected them, and their resulting optimistic and constructive attitudes (Bowlby, 1988; Mikulincer & Florian, 1999; Mikulincer & Shaver, 2007) to quickly recover from a stressful event and reestablish a sense of equanimity. Insecurely attached adults ostensibly have fewer less prominent memories of attachment figures to draw on in times of stress. As a result they are slower to recover from stressful events due to the competing processes of self-calming and their need to have their attachment goals met. Accordingly, the authors speculated that securely attached adults are more sensitive and responsive to other people's suffering while both forms of insecure attachment, anxious and avoidant, are associated with low levels of compassion and altruism for acquaintances and strangers (Mikulincer & Shaver, 2001).

Mikulincer and Shaver (2001) first looked at the relevance of attachment theory for explaining the tendency to view one's own group as positive and people who are different (out-groups) as negative. They conducted five studies testing the effects of secure base, neutral, and affective priming of in-group participants in the following contexts: (a) positive valuation of an out-group, (b) willingness to interact with out-group members, (c) threat appraisal, and (d) perceived threat to self esteem and to worldview. Neutral and affective primes were consistent with negative reactions to out-groups,

whereas a variety of secure base priming conditions resulted in less negative reactions to out-groups. “Having a sense of being loved and surrounded by supporting others seems to allow people to open themselves to alternative worldviews and be more accepting of people who do not belong to their own group” (Mikulincer & Shaver, 2001, p. 110).

Intergenerational Transference of Attachment

Research conducted by Michael Meaney and colleagues (Francis, Diorio, Liu, & Meaney, 1999) has important implications for the intergenerational effects of attachment. It turns out that maternal rat behavior translates to maternal human behavior. As in human behavior, mothers vary in levels of attentiveness to the offspring. Meaney observed that pups raised by attentive (high licking and grooming) dams were well adjusted and demonstrated muted responses to stress. Conversely, offspring of inattentive (low licking and grooming) dams were fearful and stressed. When female offspring were cross-fostered, anxious pups adopted by attentive mothers became less stress reactive; results were reversed when well adjusted pups were adopted by anxious dams. These differences in maternal behavior were also transmitted from cross-fostered pups to the next generation, indicating both brain plasticity and nongenomic transmission of behavior across generations.

Summary

The implications of insecure attachment are significant. Insensitivity of care across the first year can result in what Ainsworth termed anxious avoidant (i.e., the child’s signals are consistently rebuffed by the mother) and anxious resistant (i.e., the child’s signals elicit inconsistent responses from the mother). As with secure attachment,

the child's developing model of herself will likely be "complementary and mutually confirming" (Bowlby, 1973, pp. 2003-2004) with these attachment figure models. For example, a child whose attachment figure rebuffs her will likely feel uncared for and believe that she is not worthy of care, which leads to a distorted sense of self, the self who, in the absence of intervention, organizes future experiences based on this disregulated model. Children who demonstrate avoidant attachment will be "less self-reliant, less able to achieve social closeness, leading to isolation and other social distancing behavior" (Sroufe, 1990, p. 297) and will likely experience affective and behavior disorders.

Due to the brain plasticity, new experiences and behaviors, such as changes in parenting, psychosocial intervention, or a secure romantic relationship, can have a moderating and mediating effect on insecure attachment. Prevention of less than optimal early experiences can be accomplished by providing information and support to assist mothers in fostering and sustaining secure attachments with their infants. Recent research shows that mindfulness-based practices, with their capacity to foster awareness, empathy, and compassion, integration, self-regulation, and general psychoneurological well-being, may be helpful to mothers who want to increase their capacity to attune to their infants and provide them with sensitive responsive care.

Homelessness, Poverty, and Mother-Child Well-being

Few studies have investigated the potential effects of homelessness on the process of parenting young children. David, Gelberg, and Suchman (2012) conducted a unique review which looked at this issue from a developmental attachment perspective.

While statistics vary, families represent a much larger share of the total sheltered population; the number of homeless persons in families has increased by 20% from 2007 to 2010. Among the estimated 1.59 million sheltered homeless, 17% used only transitional housing and 4.5% used both emergency shelters and transitional housing in the latest 12-month count. Homeless families make up about 35% of the total. The majority of homeless families are headed by single mothers who are typically under 30 years of age (31.7% of persons in families) with two children (59.3% of persons in families) (HUD, 2010).

Homelessness has a profound effect on mothers who as a group have “fewer economic resources and social supports and higher cumulative rates of violent abuse and assault over their lifespans than their housed counterparts” (Bassuk et al., 1996, p. 640). Homelessness poses distinctive risk factors that make parenting difficult. Mothers of children between kindergarten and second grade age living in supportive housing report significantly higher psychological distress, less optimal parenting practices, and greater service utilization (Lee et al., 2010). Styron, Janoff-Bulman, and Davidson (2000) noted that homeless women often described their lives as “. . . a remarkably constant stream of distressing and spirit-breaking encounters, beginning in early childhood” (p. 148). Over 92% of mothers who are homeless have experienced severe physical and/or sexual abuse during their lifetime. Mothers who are homeless have three times the rate of posttraumatic stress disorder (36%) and twice the rate of drug and alcohol dependence (41%) of low-income housed women. Half of mothers experienced major depression after becoming homeless.

Among homeless children living in families, 42% were under six years of age (HUD, 2010), which is a sensitive time for the parent-child relationship, attachment, neurological, psychological, and social development (Sroufe et al., 2005). Children who are homeless experience higher rates of emotional and behavioral problems, move from one to three times a year (97%), are separated from families (22%), and witness violence (25%) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2011).

From an attachment perspective, mother and child share a space where the mother co-regulates herself and the infant until the infant is mature enough to do it for herself (Schoore, 2005; Sroufe, 1990) and when secure attachment results, the infant uses the mother as a secure base from which to explore, learn about the world, and achieve cognitive and social developmental milestones. Thus, when the mother's ability to self-regulate is compromised—by their own attachment style, homelessness, or both—so is the infant's. Typically, homeless and shelter environments are not the safe and nurturing environments necessary for mothers to parent and for young children to grow and develop in healthy ways, as shelters were initially set up to serve the needs of single adults and are slowly responding to the rising number of homeless families. Homeless and shelter environments often epitomize the toxic stress that is so injurious to the attachment, health, and well-being of parents and their children.

As mentioned earlier, toxic stress is cumulative and can complicate brain development and increase risk of stress-related physical and mental illness both in childhood and later in life. This phenomenon can become cyclical given that when these children reach adulthood, they are more likely to pass insecure attachment and

compromised stress response systems to their offspring by way of prenatal stress and suboptimal parenting (NSCDC, 2005).

For mothers, a necessary preoccupation with safety, food, and shelter makes it difficult to be as physically and emotionally accessible, sensitive, and responsive to infant signals as needed to support caregiving and attachment. The situation becomes even more complicated if the mother's caregiving is compromised by mental illness. "Temporary housing in a shelter provides only slightly improved security and comfort for the mother-infant dyad" (David et al., 2012, p. 4). Transitional housing usually provides a supportive component and more stability with the understanding that longer-term stable housing is the end goal. Both temporary and transitional housing create potential conflicts with the autonomy of parents as the institutional rules usually trump parental authority, adding to parental stress.

David et al. (2012) note, "Having experienced abuse, victimization, and concomitant violations of trust, the desire to seek or accept support from well-meaning peers and professionals might be understandably diminished" (p. 3). These experiences underscore the importance of honoring and respecting the dignity and sovereignty of mothers living in homelessness and transitional housing arrangements when offering support.

Mindfulness

This section will address the origins and definitions of mindfulness, salient research, and intersections between mindfulness, attachment, and brain research.

The term mindfulness is an English translation of the Pali word *sati* used in ancient texts to connote memory, recognition, and attention. Modern Theravadan scholars note that mindfulness in its simplest form is *bare attention* (Anālayo, 2003; Bodhi, 2000). In Nyanaponika's (1973) terms, "By bare attention we understand the clear and single-minded awareness of what actually happens to us and in us, at the successive moments of perception" (p. vii). Accordingly, thoughts and emotions are experienced as states of mind, rather than scenes in a personal drama (Bodhi, 2000). Brown, Ryan, and Creswell (2007) report that "a Zen metaphor likens this state to that of a polished mirror, wherein the mind simply reflects what passes before it, unbiased by conceptual thought about what is taking place" (p. 213). Bodhi (2000) writes mindfulness may be understood as:

focused awareness applied to immediate experience in both its subjective and objective sectors ... the exercise of *sati* has a reflexive character: one is to contemplate the body *in the body*, feelings *in feelings*, mind *in mind*, phenomena *in phenomena* ... this means the given object needs to be laid bare, stripped of the layers of mental proliferation which usually clutter our perceptions and prevent us from seeing the true characteristics of the phenomena. (p. 1506)

The cultivation of mindfulness through the practice of meditation has a long history in Eastern spiritual traditions to reduce suffering and develop qualities, such as awareness, insight, wisdom, compassion, and equanimity (Goleman, 1988). These are qualities that are beneficial for well-being apart from spiritual tradition. Kabat-Zinn (2003) writes:

[Mindfulness practice] is at its core truly universal, not exclusively Buddhist. It is neither a belief, an ideology, nor a philosophy. Rather, it is a coherent phenomenological description of the nature of mind, emotion, and suffering and its potential release, based on highly refined practices aimed at systematically training and cultivating various aspects of mind and heart via the faculty of mindful attention ... There is nothing particularly Buddhist about it. (p. 145)

Mindfulness first began to appear in the literature in the 1980s based on Kabat-Zinn's pioneering work in mindfulness-based stress reduction (MBSR). Since its introduction in the West, the understanding of mindfulness has been interpreted differently in Western literature. Significant variations in characterizations of mindfulness have come up at definitional, theoretical, and operational levels (Brown & Ryan, 2003). Mindfulness skills have been incorporated into several interventions which are now widely available in medical, mental health, and community settings, including MBSR (Kabat-Zinn, 1982, 1990), relapse prevention for substance abuse (Bowen et al., 2006), dialectical behavior therapy (DBT) (Bedics, Atkins, Comtois, & Linehan, 2012; Linehan, 1993), acceptance and commitment therapy (ACT) (Hayes, Follette, & Linehan, 2004), mindfulness-based cognitive therapy (MBCT) (Segal, Williams, & Teasdale, 2002), and MBCP (Duncan & Bardacke, 2010).

Research in the area of mindfulness has increased exponentially in recent years. A lack of a common understanding mindfulness poses challenges for researchers. Mindfulness is a complex, multifaceted phenomenon, which is illustrated clearly by the number of definitions used to depict it. Perhaps the most commonly used definition comes from Jon Kabat-Zinn (2003), who defined mindfulness as “the awareness that emerges through paying attention, on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment” (p. 145).

In an effort to find a common definition for research purposes, Bishop et al. (2004) propose a two-component operational definition of mindfulness:

The first component involves the self-regulation of attention so that it is maintained on immediate experience, thereby allowing for increased recognition of mental events in the present moment. The second component involves adopting a particular orientation toward one's experiences in the present moment, an orientation that is characterized by curiosity, openness, and acceptance. (p. 232)

Carmody, Baer, Lykins, and Olendzki (2009) add an additional classification in suggesting that mindfulness is associated with a perceptual shift in which one's thoughts and feelings are recognized as events occurring in the broader field of awareness. And lastly, Myla and Jon Kabat-Zinn (1997) described mindful parenting in their classic book, *Everyday Blessings: The Inner Work of Mindful Parenting*,

Mindful parenting is a continual process of deepening and refining our awareness and our ability to be present and to act wisely ... Every moment is a new beginning, another opportunity for tuning in, and perhaps coming – in that very moment – to see and feel and know ourselves and our children in a new and deeper way. (p. 28)

The wide-ranging salutary effects of mindfulness-based interventions include (a) improving psychological well-being and quality of life (e.g., Burg, Wolf, & Michalak, 2012; Carmody & Baer, 2008; Davidson & McEwen, 2012; Dunn, Hanieh, Roberts, & Powrie, 2012; Grossman, Niemann, Schmidt, & Walach, 2004; Kabat-Zinn, 2003; Zeidan, Johnson, Diamond, David, & Goolkasian, 2010); (b) stress reduction (e.g., Baer, Carmody, & Hunsinger, 2012; Beddoe & Murphy, 2004; Himmelstein, Hastings, Shapiro, & Heery, 2012; Kabat-Zinn 1991; Shapiro, Astin, Bishop, & Cordova, 2005); (c) prevention and treatment of depression (e.g., Segal, Williams, & Teasdale, 2002; Teasdale et al., 2000); (d) relapse prevention (e.g., Witkiewitz & Bowen, 2010); (e) reducing chronic pain and related impairment (e.g., Grossman, Tiefenthaler-Gilmer, Raysz, & Kesper, 2007; Kabat-Zinn, 1984; Kabat-Zinn, Lipworth, & Burney, 1985;

McCracken, Gauntlett-Gilbert & Vowles, 2007;); (f) enhancing immune function (e.g., Carlson, Speca, Faris, & Patel, 2007; Davidson et al., 2003; Witek-Janusek et al., 2008); (g) reduced cortisol levels (Carlson et al., 2007; Lengacher et al., 2012); and (h) increased telomerase activity (e.g., Jacobs et al., 2011). Telomerase is an enzyme which allows for the replacement of bits of DNA called telomeres – and short telomeres are associated with a variety of premature aging syndromes.

Baer et al. (2006) conducted an extensive factor analysis of five existing self-report scales: Freiburg Mindfulness Inventory (Walach, Buchheld, Buttenmüller, Kleinknecht, & Schmidt, 2006); Mindful Attention Awareness Scale (Brown & Ryan, 2003); Kentucky Inventory of Mindfulness Skills (Baer, Smith, & Allen, 2004); Cognitive and Affective Mindfulness Scale (Hayes & Feldman, 2004); and Mindfulness Questionnaire (name later changed to Southampton Mindfulness Questionnaire) (Chadwick et al., 2008) to determine psychometric characteristics of mindfulness questionnaires. Baer et al. (2006) found five main factors: (a) acting with awareness versus automatic responses; (b) non-reactivity to inner experience; (c) non-judgment and acceptance or not being confined by prior expectations; (d) describing and labeling the inner world; and (e) observing, noticing sensations, perceptions, and feelings. The authors hypothesized that the first four factors form an overall factor of mindfulness. Further research suggests that because the observing facet is associated with meditators versus non-meditators, an alternative hypothesis that observing is an essential dimension of mindfulness can be supported (Lilja, Lundh, Josefsson, & Falkenström, 2012). In

addition, Lilja et al. (2012) found a complex relationship between observing and non-judging. They therefore suggested thinking of mindfulness

as the development of a multidimensional skill, which may differ from one individual to another depending, among other things, on individual differences in baseline tendencies to attend/observe on the one hand, and to keep an accepting non-judgmental attitude to experience on the other hand It is possible that this pattern illustrates one of the great challenges of mindfulness—the difficulty of combining high levels of (self) observation with a high level of self-acceptance. (Lilja et al., 2012, p. 8)

All five of these facets are germane to the sensitive and responsive parenting necessary for attachment. The following section will address the research supporting the salutary effects of mindfulness in self regulation, stress reduction, and caregiving.

In exploring the mechanisms by which mindfulness meditation exerts its effects, Hölzel, Lazar et al. (2011) developed a model for looking at the neural mechanisms of mindfulness. The following sections are organized according to their model: (a) attention regulation, (b) body awareness, (c) emotion regulation, and (d) change in perspective on the self. Behavioral and neural evidence for each mechanism are included where possible. The descriptions and evidence of these mechanisms will overlap throughout because these mechanisms, the body, and the brain are complex dynamic systems.

To a first approximation, Hölzel, Lazar et al.'s model (2011) lines up with Kabat-Zinn's (2003) definition of mindfulness: "The awareness that emerges through paying attention, on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment" (p. 145); Bishop et al.'s (2004) operational components of mindfulness: self-regulation of attention and orientation toward one's experiences in the present moment; and Baer et al.'s (2006) five facets of mindfulness: (a) acting with

awareness versus automatic responses; (b) non-reactivity to inner experience; (c) non-judgment and acceptance or not being confined by prior expectations; (d) describing and labeling the inner world; and (e) observing, noticing sensations, perceptions, and feelings.

The evidence Hölzel, Lazar et al. (2011) accumulated to support this framework suggests that mindfulness practice is associated with certain areas of the brain. Attention regulation is associated with the anterior cingulate cortex (ACC). Body awareness is associated with the insula and temporo-parietal junction. Emotion regulation reappraisal is associated with the dorsal prefrontal cortex (PFC), and emotion regulation for exposure, extinction, and reconsolidation is associated with the ventro-medial PFC, hippocampus, and amygdala. Lastly, change in perspective on the self is associated with the medial PFC, posterior cingulate cortex, insula, and temporo-parietal junction.

Attention Regulation

Hölzel, Lazar et al. (2011) point out that attention is a foundational characteristic of mindfulness meditation. Many traditions begin with focused attention meditation before graduating to other types of meditations. Further, the authors suggest that attention regulation is an important mechanism which develops early in mindfulness practice both as characteristic of meditation and a building block for the other mechanisms. Practice leads to longer stretches of attention and less susceptibility to distractions *on and off the cushion*.

Jha, Krompinger, and Baime (2007) found that MBSR participants improved the ability to internally orient attention, while participants in a month-long intensive

mindfulness retreat developed receptive attentional skills which improved alerting-related process to external factors.

Williams and Wahler (2010) found correlations between mothers' parenting style and mothers' ratings of their children's externalizing and internalizing problems and innate mindfulness. Results showed parenting styles mediated the connections between mothers' mindfulness and their perceptions of child problems. More mindful mothers were more likely to view their parenting style as authoritative (i.e., lower control and more dialogue) and less likely to view their child as problematic. The reverse was true of the authoritarian (i.e., higher control and little dialogue) parenting style. The authors speculated that mindfulness training could work in concert with parent skills training to improve mothers' parenting styles and practices.

Burg et al. (2012) investigated the relationship between mindfulness and its characteristic self-regulation of attention and heart rate variability (HRV) as an empirical measure of emotion and behavior regulation. The ability to mindfully regulate attention was positively correlated with higher HRV, adding more support for the physiological benefits of mindfulness training. Mindfulness training has also improved self-regulation and perceived stress in incarcerated adolescents (Himmelstein, Hastings, Shapiro, & Heery, 2012).

Neural Mechanisms of Attention in Mindfulness

In Hölzel, Lazar et al.'s (2011) model, attention regulation is associated with the anterior cingulate cortex (ACC). According to Cozolino (2006), "The cingulate appears to be involved in simultaneously monitoring personal, environmental and interpersonal

information and allocating attention to whatever is most salient” (p. 105). The cingulate cortex coordinates maternal behavior, nursing, and play. In addition to enabling caretaking and attunement behaviors, the cingulate cortex also makes attachment, social cooperation, and empathy possible (Cozolino, 2006; Rilling et al., 2002; Swain, Lorberbaum, Kose, & Strathearn, 2007).

In a review, Allman, Hakeem, Erwin, Nimchinsky, and Hof (2001) proposed that “the ACC plays an important role in emotional self-control, focused problem-solving, error recognition, and adaptive response to changing conditions” (p. 115; Carter et al., 1998; Hölzel et al., 2007; Nieuwenhuis, Ridderinkhof, Blom, Band, & Kok, 2001).

In an fMRI study comparing differences in brain activation in advanced meditators and non-meditators, meditators showed stronger activations in the rostral anterior cingulate cortex during mindful breathing practice (Hölzel et al., 2007). Meditators were better at maintaining attention to task. The authors suggest that greater subjective expertise in attention regulation goes along with greater ACC activation and greater processing of distracting events (Hölzel et al., 2007). Further, they suggest that ACC activation may help maintain attention during meditation by signaling the need for top-down regulation to resolve conflicting thoughts.

Damage to the ACC has resulted in decreased expressiveness and less motivation to communicate (Damasio & Van Hoesen, 1983), inappropriate social behavior (Hadland, Rushworth, Gaffan, & Passingham, 2003), and decreased empathy and maternal behavior (Brothers, 1996).

Body Awareness

Stress reactivity is one example of body awareness as a mechanism of mindfulness in bodily sensation and is usually associated with stress states. Mindfulness has been associated with self-report of reduced stress pointing toward a stress buffering role and a protective factor against the detrimental effects of stress (Brown & Ryan, 2003). More recent studies show mindfulness modulates cortisol consistent with reduced stress and mood disturbance in cancer patients (Carlson et al., 2007) and controlled laboratory responses to an acute social stressor (Brown, Weinstein, & Creswell, 2012). In addition, six weeks of MBSR training also showed reduced salivary cortisol at weeks one and three in patients with advanced-stage cancer diagnosis and their caregivers as well as reduced stress and anxiety for patients (Lengacher et al., 2012).

In a review of the literature from 1980 to 2008, Austin and Leader (2000) suggest a complex relationship between perceived stress in pregnancy, the hypothalamic-pituitary-adrenal (HPA) axis, and premature delivery. Further, maternal prenatal stress is associated with preterm birth rather than delivery complications. Vieten and Astin (2008) point out that prenatal stress and negative mood increase the risk of a long list of suboptimal childbirth outcomes, postnatal mood problems, and may hinder attachment and child development. They developed and tested Mindful Motherhood, a program that included parts from MBSR, MBCT, and ACT. The intervention targeted stress reduction and improved mood during pregnancy and early postpartum. Mothers who participated in the intervention showed significantly reduced anxiety and negative affect in their third trimester. Dunn et al. (2012) conducted a pilot study of pregnant women participating in

an eight-week MBCT group. Mothers reported a clinically reliable decrease in depression, stress, and anxiety and an increase in mindfulness and self-compassion which continued into the postnatal period.

Maloney and Altmaier (2007) studied the potential of mindfulness training to aid in sustaining parent-child connectedness amid the stresses of divorce by enhancing parents' self-awareness, mindfulness, and intentionality in responding to their children's needs. They found that the 12-week parent education program, the Mindful Parenting Program, can increase parents' mindfulness measured by the Toronto Mindfulness Scale. However, no change was noted in parent stress or observations of in-home parent-child interactions despite high parent satisfaction with the training and their perceived positive changes in parent-child relationships. This may be due in part by the lack of extended practice and longitudinal follow-up with parents in this study (Singh et al., 2006, 2007).

Neural Mechanisms of Body Awareness

Body awareness is associated with the insula and temporo-parietal junction (Hölzel, Lazar et al. 2011). The insula is associated with interoception (sensitivity to internal sensations and the processing of those sensations). The insula is organized like a map of the body and connects the limbic system and cortices (Cozolino, 2006). It is involved in processing emotion from disgust to love (Bartels & Zeki, 2000). Treadway and Lazar (2009) note that it is responsible for "gut feelings" and is activated by meditation, and "one hypothesis for the increased activation of the insula during meditation is that it reflects the mediator's careful attention to the rising and falling of internal sensations" (p. 51).

Meditation has also been associated with increased cortical thickness including the PFC and right anterior insula (Lazar et al., 2005). The insula is activated in response to facial expressions (Carr et al., 2003), empathy for a loved one's pain (Singer et al., 2004) as well as strangers (Lamm, Meltzoff, & Decety, 2010), changes in eye gaze, awareness of untrustworthy (Cozolino, 2006), and prosocial behavior (Hein, Silani, Preuschoff, Batson, & Singer, 2010); all are factors associated with attachment behavior.

Emotion Regulation

Self-regulation generally refers to the self ongoing adjustment of emotion, thought, and behavior. Self-regulation of emotion relies on interactions between the PFC (the brain's executive center) and emotional centers, particularly the amygdala (Goleman, 2011). Mindfulness can support emotion regulation by increasing positive affect and decreasing anxiety, depression, and negative affect. Goodall, Trejnowska, and Darling (2012) investigated the relationship between inherent mindfulness, attachment security, and emotion regulation. A sample of 192 adult participants who had no previous mindfulness training completed the Five Facet Mindfulness Questionnaire (FFMQ), the Experiences in Close Relationships Scale-Revised (ECR-R), and the Difficulties in Emotion Regulation Scale (DERS) online. A factor analysis confirmed that dispositional mindfulness is related to both emotional regulation abilities and attachment security.

Greenberg, Reiner, and Meiran (2012) examined the relationship between mindfulness practice and cognitive rigidity, comparing experienced mindfulness meditators with non-meditators who had registered for their first meditation retreat and comparing non-meditators who underwent an eight-meeting mindfulness program with a

waiting list group. The authors concluded that mindfulness meditation reduces cognitive rigidity—the tendency to be *blinded* by experience.

Moffitt et al. (2011) followed a cohort of 1,000 non-siblings from birth to age 32 years and found that self-regulation in childhood, as early as three to five years of age, predicted physical health, substance dependence, socioeconomic status, and the likelihood of a criminal conviction at age 32, after controlling for social class of origin, IQ, and from mistakes they made as adolescents. In another cohort of 500 fraternal twin-pairs, the sibling with lower self-control had poorer outcomes, despite shared family background.

Mindfulness training may be helpful for relapse prevention in substance use disorders (SUDs) by reducing cravings and other problematic thoughts and feelings. In the first systematic review of mindfulness meditation-based interventions for SUDs, Zgierska et al. (2009) examined 25 eligible manuscripts including five mindfulness models. They concluded that preliminary studies show mindfulness practice is a promising safe, efficacious treatment modality for SUDs. Limitations in sample size and mechanisms of action cited by the authors are being addressed in more current studies (Garland, Gaylord, Boettiger, & Howard, 2010; Witkiewitz & Bowen, 2010).

Mindfulness training has also shown promise in improving family function for parents with SUDs. Parents Under Pressure (PUP), a home-based intervention which employs the ecological model of child development, includes mindfulness training with affect regulation and relapse prevention components. It was implemented in families where at least one parent was receiving methadone maintenance treatment (Dawe &

Harnett, 2007). PUP is a 10-session program that can be delivered over 10 to 12 weeks. PUP families showed significant reductions in child abuse potential, rigid parenting attitudes, and child behavior problems. Families who participated in briefer PUP intervention (two sessions) showed a modest reduction in child abuse potential and no other changes in family function. Families in the standard care group not only showed no improvement, they showed significant worsening changes in family function.

Duncan and Bardacke (2010) conducted a pilot study of pregnant women participating in a nine-week MBCP. MBCP is an adaptation of the MBSR (Kabat-Zinn 1990, 2003) program designed to promote family health and well-being during pregnancy, childbirth, and early parenting practices. Participants experienced significant increases in mindfulness and positive affect, and decreases in pregnancy anxiety, depression, and negative affect. In a review of nonpharmacologic interventions and prevention strategies for depression during pregnancy and postpartum, Dimidjian and Goodman (2009) suggest that MBCT has been efficacious in the prevention of depression relapse among the general adult population. For women who want to avoid the possible side effects of pharmacologic treatment for depression, mindfulness may be a beneficial option during pregnancy. The authors suggest that learning mindfulness while pregnant seems to broaden “women’s personal repertoire of coping strategies and this has potential to improve the developmental trajectory of parents and infants” (Dunn et al., 2012, p. 142).

Neural Mechanisms of Emotion Regulation

As mentioned earlier, increases in emotion regulation (positive reappraisal) are associated with the dorsal PFC and (exposure, extinction, and reconsolidation) with the ventro-medial PFC, hippocampus, and amygdala (Hölzel, Lazar et al., 2011). Self-regulation of emotion relies on interactions between the PFC (the brain's executive center) and emotional centers, particularly the amygdala. The dorsolateral PFC is the center for cognitive control, regulating attention decision-making voluntary action reasoning, and flexibility in responses (Goleman, 2011).

The hippocampus is part of the limbic system and is responsible for “the organization of spatial, sequential and emotional learning and memory” (Cozolino, 2006, p. 57). It is also involved in emotion and stress regulation. Smaller hippocampal volume is associated with moderate to severe stress, low self-esteem (Davidson & McEwen, 2012), and psychiatric disorders (Buss et al., 2007). Buss et al. (2007) also showed via fMRI studies that birth weight predicts hippocampal volume in adults who reported low early bonding with their mothers. Their findings suggest that the hippocampus is affected by early parent-child interactions, particularly in females. Quirin, Gillath, Pruessner, and Eggert (2010) found that both attachment anxiety and avoidance were positively associated with hippocampus gray cell density and represents a neural underpinning of compromised stress regulation.

Luders, Toga, Lepore, and Gaser (2009) observed increased right hippocampal volume in meditators, and in a longitudinal study of MBSR program participants, Hölzel, Carmody et al. (2011) found increases in gray matter concentration within the left

hippocampus and increases in the posterior cingulate cortex, the temporo-parietal junction, and the cerebellum.

The amygdala is the brain's radar for threat detection. It is the fight-flight-freeze center which activates the sympathetic nervous system which triggers the release of stress hormones into the body. When it detects a threat it can take over the rest of the brain in an instant, particularly the PFC, which is called an amygdala hijack; these hijacks can last from a few minutes on one end of the spectrum to a nearly constant state at the other (Goleman, 2011).

Zelazo and Lyons (2012) propose a model of self-regulation and mindfulness in which top-down cortical processes (i.e., control) continually interact with bottom-up subcortical processes (i.e., automatic). Being mindful:

facilitates self-regulation by promoting top-down facets of control (such as sustained attention or cognitive flexibility) and diminishing more bottom-up sources of interference (such as snap judgments, emotional reactivity, or a chain reaction of distressing thoughts). (Zelazo & Lyons, 2012, p. 156)

Lutz, Greischar, Rawlings, Ricard, and Davidson (2004) undertook a study of eight Tibetan Buddhist monks with 10,000 to 50,000 hours of meditation practice accumulated over time periods of 15 to 40 years to explore the results of long-term meditation practice. Using EEG studies they pinpointed the left PFC which is associated with happiness and positive thoughts and emotions as the place where brain activity associated with long-term meditation on unconditional compassion is particularly concentrated. This study advances the concept of neuroplasticity by showing that mental training through meditation can itself change the architecture and workings of the brain.

Changes in Perspective of the Self

Increasing self-compassion is an example of the changes in perspective on the self-mechanism of mindfulness. In order to understand self-compassion, it is helpful to think about the phenomenon of compassion. Halifax (2012) describes compassion as “the emotion one experiences when feeling concern for another’s suffering and desiring to enhance that person’s welfare” (p. 1). The Halifax model of compassion is an enactive compassion model which acknowledges that compassion is a complex adaptive system; enactive is used here to denote the individual “bringing forth meaning in their intimate interactions with their environments” (Halifax, 2012, p. 1). According to this model, one cannot train in compassion. Rather one can set up the environment—by cultivating “interdependent somatic, affective, cognitive, attentional, and embodied processes” so that compassion can emerge (Halifax, 2012, p. 6).

Halifax (2012) suggests practice in three axial domains. The attentional and affective axis involves the attentional and affective domains which prime mental balance. The cognitive axis involves the intentional and insight domains and prime discernment. Third, the physical, embodiment, and engagement axis and domains “give rise to three key features: ethike [moral virtue], equanimity [evenness of mind], and eudaemonia [well-being]” (Halifax, 2012, p. 6). When these three axes are activated, equanimity blooms.

Equanimity is characterized by the serene realization of the truth of impermanence. This mental feature is complemented by the feature of eudaemonia, defined as human flourishing, another outcome of enactive compassion. Among the Greeks eudaemonia is associated with the highest human

good and the exercise of virtue. Thus, “ethike” or moral virtue is also present in the process of enactive compassion. (Halifax, 2012, p. 6)

Compassion for others is supported by self-compassion, compassion turned inward, just like the potentially lifesaving practice of donning your own oxygen mask before helping another. The forerunner of compassion is suffering, which “manifests as a pattern of diminished self-care capacity, decreased relatedness to others, decreased autonomy, and a perception of decreased self-worth that occurs in an environment that appears to support these conditions” (Reyes, 2012, p. 85).

Neff (2012) has written extensively on self-compassion and suggests that it comprises three main parts: self-kindness, a sense of common humanity, and mindfulness (Neff, 2003a). Self-kindness recognizes that imperfection is a part of being human in an unpredictable world, and so shortcomings or unmet expectations and any suffering that goes along with them are inevitable. Self-kindness means accepting, self-understanding, soothing, and nurturing as opposed to enhancing suffering by piling on more in the form of self-criticism or anger (Neff, 2012; Reyes, 2012; Van der Cingel, 2009).

Self-compassion recognizes that suffering is part of our shared humanity and is not a solitary experience, as most people perceive it (Neff, 2012; Van der Cingel, 2009). Awareness of common humanity provides a sense of belonging which lessens the burden of suffering (Neff, Kirkpatrick, & Rude, 2007; Neff & Vonk, 2009; Reyes, 2012). Neff (2012) points out that it is impossible to “ignore your pain and feel compassion for it at the same time” (p. 81). As a component of self-compassion, mindfulness means holding painful thoughts and feelings in mindful awareness rather than over-identifying with

them. Siegel (2007a) suggests that mindfulness is an attuned relationship with one's self. For as Reyes (2012) suggests, "Mindfulness allows one to witness the experience of suffering objectively. Rather than intensifying, mindfulness transforms suffering into an opportunity for spiritual and psychological growth. This transformation results in an alignment of emotional and rational processes" (p. 83).

Reyes (2012) conducted a concept analysis which describes self-compassion in a nutshell. The antecedent of self-compassion is suffering. Its attributes are self-kindness, mindfulness, and awareness of common humanity and wisdom. And the consequences of self-compassion are a pattern of increased self-care capacity, compassion for others, and increased relatedness, autonomy, and sense of self. Lastly, Baart (as cited in Van der Cingel, 2009) suggests that compassion is a form of love that needs critical reflection, but nevertheless has an enormous power to humanize. It is difficult to imagine a context in which being humane and reducing suffering would not be beneficial.

Initial studies on self-compassion indicate that it is associated with emotional intelligence and other psychological strengths (Neff, Kirkpatrick et al., 2007) better emotional coping skills (Neely, Schallert, Mohammed, Roberts, & Chen, 2009), authentic conflict resolution (Yarnell & Neff, 2012), and adolescent well-being (Neff & McGehee, 2010). Self-compassion also facilitates the ability to cope with distressing situations. Leary, Tate, Adams, Allen, and Hancock (2007) completed five studies investigating how self-compassionate people deal with unpleasant life events. Self-compassionate participants were more willing to accept their shortcomings, responded kindly to

themselves regardless of how their performance went, and tended to perceive unpleasant events in ways that reduce their effects.

Studies show that mindfulness increases self-compassion. In a study of 51 current health care professionals who attended an eight-week MBSR program, Shapiro, Astin, Bishop, and Cordova (2005) found that an eight-week MBSR intervention may be effective for reducing stress as well as increasing quality of life and self-compassion in healthcare professionals. Specific outcomes included reduced stress, greater life satisfaction, decreased job burnout, and an increase in self-compassion.

Benn, Akiva, Arel, and Roeser (2012) studied parents and teachers of children with special needs who participated in mindfulness training. Overall, mindfulness training increased well-being, including increased mindfulness and self-compassion. Teachers felt that mindfulness increased the effectiveness of their teaching and quantitative results showed mindfulness significantly influenced teachers' caregiving competence.

In a recent study, Neff and McGehee (2010) collected self-report data including self-compassion, family functioning, and maternal support from large samples of adolescents and young adults. Results were similar between the two groups. Securely attached adolescents and young adults reported significantly higher levels of self-compassion. Family functioning significantly predicted self-compassion levels.

Neural Mechanisms of Changes in Perspective of the Self

While there is little research on the neural correlates of self-compassion, Singer and colleagues (2004) have conducted landmark research into the neural underpinnings

of empathy and compassion. Interesting things happen in our brains when we share the feelings of others. Singer et al. (2004) used fMRI to measure affective responses of romantic partners to actual painful stimulus as compared to observing their partner receiving a similar pain stimulus. The same part of the brain was activated when a partner experienced pain as when the other partner observed the pain. This included the pain matrix, insula, and anterior cingulate. The latter two were the only regions in which activity correlated with a measure of self-reported empathy. Similar results were found when participants observed people who were “not like us” (Lamm et al., 2010, p. 371).

Empathetic responses are not limited to shared firsthand and vicarious experiences of affective states. Empathetic responses can change based on experience, characteristics like degree of alexithymia (state of deficiency in understanding, processing, or describing emotions), or a sense of perceived fairness, and perceptions of group membership may change empathic brain activity (Bernhardt & Singer, 2012).

Hein et al. (2010) investigated the relationship between perceived group membership, empathy, and the neurobiological basis of prosocial behavior. They paired same-team soccer fans (in-group) and rival fans (out-group) to investigate. Soccer fans witnessed an in-group and out-group person experience pain consistent with prior research (Singer et al., 2004). Observer and recipient of pain stimuli activated the same area of the brain, the AI (Singer et al., 2004), although stronger responses were observed when an in-group member watched one of his own in pain. The second part of the experiment looked at empathy and altruism. One member of the pair received a painful stimulus and the observer was given the choice to help an in-group member at the

expense of experiencing half the pain dose that was supposed to go to the fellow in-group member. The process was repeated with in-group and out-group pairs. Helping a fellow in-group member was associated with AI activation and self-reports of empathic concern. In comparison, not helping the out-group member was associated with activation in a different area, the nucleus accumbens, and a higher degree of negative evaluation of the other.

Initial research shows that empathy can be cultivated. Klimecki et al. (2012) measured functional neural responses and self-reports to witnessing video recordings of others in a distressing situation before and after compassion training via loving kindness meditation (Salzburg, 2008) to study affective plasticity in healthy adults. An advanced meditator, Matthieu Ricard, showed increased activity in brain regions orienting them toward the well-being of other people. Non-meditators were more likely to engage brain regions that support negative affect which sequentially enhanced their suffering and a desire to withdraw from the situation. However, after completing compassion training, new meditators were able to extend compassion to the people in the videos and showed activity in brain regions previously associated with positive affect and affiliation, even in response to witnessing others in distress (Klimecki et al., 2012).

Caregiving and Compassion

The premise that self-compassion is associated with the attachment and caregiving systems has been around for some time (Gilbert, 1989; Gillath, Shaver, & Mikulincer, 2005).

The characteristics of mindfulness-based interventions have clear relevance for caregiving. For instance, MBSR training and practice reduced self-reported depression, perceived stress, and burden for caregivers of frail elderly patients (Epstein-Lubow, McBee, Darling, Arney, & Miller, 2011) at the conclusion of training with further reduction at one month follow-up. Similar results were found after brief mindfulness training for caregivers of family members with dementia where findings included decreases in reactivity and caregiver burden and increases in acceptance, presence, peace, and hope (Hoppes, Bryce, Hellman, & Finlay, 2012).

In an effort to provide relief from multiple stressors and promote self-care for caregivers of children with chronic medical conditions, Minor, Carlson, Mackenzie, Zernicke, and Jones (2008) studied the outcomes of seven cohorts attending MBSR. At the end of the program, caregivers' high stress and mood disturbance were significantly reduced. Eight weeks of mindfulness training was evaluated as a potential intervention for parents of adolescents with attention and impulsivity problems due to a variety of different externalizing disorders; adolescent children also participated in mindfulness training. Parents reported perceived improvement in their subjective happiness ratings and in their children's symptoms and sustained attention. Children self-reported substantial improvement in personal goals, attention, awareness, impulsivity, attunement, social problems, and happiness. They also reported reduced internalizing and externalizing symptoms and improvement was maintained at eight-week follow-up. No improvement occurred in the comparison group on most variables (Bögels, Hoogstad, van Dun, de Schutter, & Restifo, 2008).

Parents of children diagnosed with autism report higher levels of stress than parents of typically developing children and children with chronic illnesses or other developmental disabilities (Ferraioli & Harris, 2012). Consequently, the use of mindfulness is a growing topic of investigation in this area. Ferraioli and Harris (2012) compared a behavioral skills approach to a parent-oriented mindfulness approach to managing parenting stress management with 15 parents of children diagnosed with autism. Both parental stress and overall health were assessed prior to the intervention, at its close, and at three-months follow-up. Only the mindfulness group showed significant improvement.

Singh et al. (2006) studied mindfulness with three mothers raising children diagnosed with autism in order to decrease aggressive behavior, noncompliance, and self-injury. Mothers recorded instances of these targeted behavior and completed self-report measures of satisfaction with parenting and interactions with children as well as mindfulness. Fathers also recorded observations for reliability purposes. The study included three phases. Initially, data were collected over 15 weeks prior to the intervention. Mothers were given a copy of *Everyday Blessings: The Inner Work of Mindful Parenting* (Kabat-Zinn & Kabat-Zinn, 1997) to be read and participated in 12 weeks of two-hour one-to-one training sessions with the first author which focused on using mindfulness in interactions with their children. The final phase consisted of 52 weeks of practicing mindfulness exercises and skills in interactions with their children. Results showed that mindfulness increased mothers' satisfaction with their parenting skills and interactions with their children. Mindful parenting decreased children's

aggression, noncompliance, and self-injury. Positive results continued to increase substantially over the 52-week practice phase.

Singh et al. (2007) used the same phased protocol as Singh et al. (2006) with mothers of children with developmental disabilities, aggressive behavior, and negative social interactions. Mothers in this study also reported increased satisfaction with their parenting skills and social interactions with their children as well as decreased parenting stress. In addition, targeted behaviors which decreased during the training phase decreased dramatically during the 52-week practice phase.

The choice of language in Singh et al. (2006) is consistent with Bowlby's attachment theory and brain plasticity: Their statement, "mindfulness transforms the *individual's view of self and others* as the basis for behavior change" (italics added) (p. 175) is consistent with Bowlby's notion of updating IWMs as well as the brain's ability to transform via experience. Singh et al. (2006) also use the phrase "developmental pathway" (p. 175) and speculate that as the mother practices mindfulness this pathway produces "positive bidirectional parent-child" (p. 175) interactions indicating that the observed changes took place in the context of relationship—which Bowlby (1988) would describe as the caregiving and attachment systems.

Growing evidence shows that the transformative nature of mindfulness training has many positive effects on those practicing it and, in addition, has "positive spillover effects on individuals who are important in their lives" (Singh et al, 2006, p. 174; Singh et al., 2007, 2010).

Parenting

Dumas (2005) draws attention to the paradox of mindlessness and mindfulness in parenting. A certain degree of mindless automaticity is useful in the parenting process as it provides shortcuts to manage interactions; for instance, the automatic reaction of a mother to protect her child from danger is important to the child's survival. However, mindless automatized responses can become ingrained, rigid, and maladaptive. The most prevalent model for parent training has been a behavioral model, consistent with adoption of automatized behavior patterns which lack the awareness needed to pay attention and make necessary changes. Dumas (2005) believes a behavioral model of parenting cannot account for the complex nature of human behavior. He uses the phrase *automatized transactional procedures* (ATP) to describe patterns of interaction established when people interact often, such as within the parent-child relationship. ATPs serve important functions including maintaining the stability and predictability of a relationship. They are greatly resistant to change which has mixed implications in that ineffective ATPs are difficult to change.

A mindful state and mindful traits, on the other hand, which are exemplified by awareness, careful attention, and compassion in the present moment, provide parents with the perspective taking and flexibility needed to attune to and parent children. With lots of practice, mindfulness can also become automatized, creating new, more effective ATPs, the difference being behavioral responses are typically one-size-fits-all and situation-specific and mindful approaches are more flexible and suitable to each new occurrence. This notion that behavioral-based parenting is situation-specific is supported by Holden

and Miller's (1999) meta-analysis which compared similarities and differences in child rearing across three dimensions: time, children, and situations. The greatest similarity in the behavioral approaches was found across time and children. While effective parents were generally able to sustain situation specific responses, environmental changes tended to disrupt their responses. For example, an approach that works well at home may not work well in a crowded store. Conversely, a relational approach to parenting builds the capacity for parents to respond to children's unique temperament characteristics and behavior. Awareness and openness to each new moment, focused, non-judgmental attention to each new situation gives parents access to a larger repertoire of viable responses (Duncan & Bardacke, 2010).

Williams and Wahler (2010) found correlations between mothers' innate mindfulness, parenting style, and ratings of their children's externalizing and internalizing problems. Results showed parenting styles mediated the connections between mothers' mindfulness and their perceptions of child problems. More mindful mothers were more likely to view their parenting style as authoritative (i.e., lower control and more dialogue) and less likely to view their child as problematic. The reverse was true of the authoritarian (i.e., higher control and little dialogue) parenting style. Their findings are consistent with Meins et al.'s (2001) concept of maternal mind mindedness and its relationship to attachment. Williams and Wahler (2010) speculated that mindfulness training could work in concert with parent skills training to improve mothers' parenting styles and practices.

In summary, mindfulness is “the awareness that emerges through paying attention, on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment” (Kabat-Zinn, 2003, p. 145). Research focused on the applications and outcomes of mindfulness has grown remarkably in recent years. Mindfulness is characterized by (a) acting with awareness versus automatic responses; (b) non-reactivity to inner experience; (c) non-judgment and acceptance or not being confined by prior expectations; (d) describing and labeling the inner world; and (e) observing (Baer et al., 2006). These qualities are associated with attachment (Shaver, Lavy, Saron, & Mikulincer, 2007). While the mechanisms of how it works are not yet fully understood, research shows attention regulation, body awareness, emotion regulation, and change in perspective on the self play significant roles in the way mindfulness works (Hölzel, Lazar et al., 2011). Mindfulness practice has contributed to increased health and social well-being and shows promise for assisting parents in their most important work.

CHAPTER 3. METHODOLOGY

“In each atom of the realms of the universe there exist vast oceans of world systems”

(The Great Flower Ornament in HH Dalai Lama, 2005, p. iii)

Conceptual Framework

The conceptual framework of this study rests on Einstein’s call for an embrace of all living creatures, Bowlby’s notion of the vital nature of the mother’s embrace of the child and the lasting connectedness between them (as cited in Sullivan, 1972), and the embracing nature of mindfulness. In essence, human connections shape neural connections. Psychoneurobiologically attuned parents beget securely attached, self-regulating children with optimal brain architecture who grow up to be psychoneurobiologically attuned parents or members of ever-expanding networks of attuned communities inclined to act in the best interests of children and families. Mindful awareness alters brain function, mental activity, and interpersonal relationships toward well-being, attachment, self-regulation, and healthy brain architecture—in other words, psychoneurobiological attunement.

The assumption of this study is that mindfulness positively affects attachment regulation which optimizes parenting behavior and results in close parent-child relationships.

Problem Statement

Given the lifelong ramifications of a child’s first experiences and relationships, this study concentrates on a gap in the literature regarding applications of mindfulness to

parenting practices and healthy mother-child relationships by exploring the implications of mindfulness practices for recently homeless mothers living in transitional housing amid multiple stressors.

Purpose

The purpose of this inquiry is to explore and subsequently describe the impact of mindfulness-based practice for mothers living in transitional housing on the nature of their parenting and their relationships with their children.

Research Questions

The key questions are:

1. What are the perceived effects of mindfulness practices on the qualia of mindfulness, attachment-related strategies, and the nature of the parent-child relationship for mothers living in a transitional housing program?
2. What is the lived experience of these mothers in practicing mindfulness?
3. What relationships, if any, are evident between attachment-related strategies, mindfulness, and the nature of the parent-child relationship?

Study Participants

Participants in this study are mothers who live in transitional housing in a small Midwestern city and attend a parenting class which includes a mindfulness practice component. The parenting class is run by a licensed parent educator and run weekly during the school year. Well over half of the families in this community are people of color. Seventy-five percent of families are headed by single mothers with at least one child under the age of five. In those households the poverty rate is over 80%.

Data Collection and Analysis

Self-report Measures

Two self-report measures, the FFMQ (Baer et al., 2006) and the ECR (Brennan et al., 1998) were used to assess mothers' mindfulness and attachment anxiety and avoidance prior to beginning eight weeks of mindfulness training sessions, at the conclusion of the training, and at two-months follow-up. Both instruments have a scoring protocol. Because this is a small convenience sample, descriptive statistics were appropriate.

Five Facet Mindfulness Questionnaire. The FFMQ (Baer et al., 2006) is a comprehensive measure of mindfulness derived from an extensive factor analysis of five existing self-report scales: (a) Freiburg Mindfulness Inventory (Walach et al., 2006); (b) Mindful Attention Awareness Scale (Brown & Ryan, 2003); (c) Kentucky Inventory of Mindfulness Skills (Baer et al., 2004); (d) Cognitive and Affective Mindfulness Scale (Hayes & Feldman, 2004); and (e) Mindfulness Questionnaire (name later changed to Southampton Mindfulness Questionnaire) (Chadwick et al., 2008). The FFMQ is a 39-item questionnaire rated on a 5-point Likert scale and comprises five subscales:

1. Acting with awareness (e.g., I break or spill things because of carelessness, not paying attention, or thinking of something else).
2. Non-reactivity to inner experience (e.g., I perceive my feelings and emotions without having to react to them).
3. Non-judgment of inner experience (e.g., I criticize myself for having irrational or inappropriate emotions).

4. Describing (e.g., I'm good at finding the words to describe my feelings).
5. Observing (e.g., I sense my body, whether eating, cooking, cleaning, or talking). (Baer et al., 2006, pp. 34-35)

Baer et al. (2008) supported the construct validity of the FFMQ in experienced meditators and non-meditators. According to Scopus, 93 peer-reviewed documents cite Baer et al.'s (2008) study. Lilja et al. (2012) found a complex relationship between Observing and Non-judging which was not investigated in the initial study. Using the FFMQ (Baer et al., 2006), DERS (Gratz & Roemer, 2004), and the ECR-R (Fraley et al., 2000), Goodall et al. (2012) found that both emotional regulation abilities and adult attachment security were related to dispositional mindfulness. Their factor analysis distilled two factors: *conscious awareness of emotional states* and *metacognition of emotional states*, suggesting some conceptual overlap between dispositional mindfulness and emotion regulation with regards to awareness and acceptance of emotional response (Goodall et al., 2012).

A study of the psychometric properties of the Dutch FFMQ (Bohlmeijer, ten Klooster, Fledderus, Veehof, & Baer, 2011) repeated the construct validity of the FFMQ in adults with depression and found that three of the five facets: "acting with awareness, non-judging, and non-reactivity, are highly sensitive to change and ... observing and describing are moderately sensitive to change" (pp. 316-317). The authors developed and cross-validated a 24-item short form of the FFMQ (FFMQ-SF). Both instruments were reliable and valid for use in adults.

All five of these facets are germane to the sensitive and responsive parenting necessary for attachment (Duncan & Bardacke, 2010; Duncan, Coatsworth, & Greenberg, 2009).

Experiences in Close Relationships Scale. The ECR (Brennan et al., 1998) is a 36-item self-report measure of adult attachment avoidance and anxiety. The scale was created via a factor analysis of 482 items collected from previous attachment measure research. This scale measures the two primary attachment constructs of avoidance (i.e., I prefer not to show others how I feel deep down) and anxiety (i.e., I worry about being rejected or abandoned). Participants rate the extent to which each item describes their feelings in close relationships on a 7-point scale ranging from *disagree strongly* to *agree strongly*. The scale showed high internal consistency for both the anxiety and avoidance.

Mikulincer and Shaver (2007) note that the items on the attachment anxiety factor are “reminiscent of Ainsworth et al.’s (1978) coding scales describing anxiously attached infants; that is, they emphasize both fear of abandonment and anger about separations” (p. 90) as are the items on the attachment avoidance items which “emphasize lack of closeness and emotional suppression” (p. 91).

This measure has been used in hundreds of studies since 1998, always with high reliability (the alpha coefficients are always near or above .90, and test-retest coefficients range between .50 and .75, depending on the time span and the nature of the sample). (p. 91)

Mikulincer and Shaver (2007) have used this scale in most of their studies in Israel and the U.S. in Hebrew and English with similar results. The authors also note that they have

not traded the ECR for the ECR-R scale (Fraley et al., 2000) due to the wording of some new items as well as similar reliability estimates and stability between the two scales.

The ECR has been used to assess the effects of security priming on hurt feelings (Cassidy, Shaver, Mikulincer, & Lavy, 2009), attachment insecurities and processing threat related information (Ein-Dor, Mikulincer, & Shaver, 2011), adult attachment and creative problem solving (Mikulincer, Shaver, & Rom, 2011), adult attachment insecurity and hippocampal cell density (Quirin et al., 2009), neural processes underlying adult attachment orientations and emotion regulation (Gillath, Bunge et al., 2005), attachment-related to compassion, caregiving, and altruism (Gillath, Shaver, Mikulincer, Nitzberg et al., 2005) as well as attachment security, mindfulness, adaptive function, and well-being (Sahdra et al., 2011).

Semi-structured Interviews

Semi-structured interview questions were asked of mothers prior to beginning the training as well as after the training to explore mother-child relationships prior to and after training. The following questions were asked prior to mindfulness training:

1. How would you describe your overall parenting interactions with your child?

2. Please describe a recent interaction with your child that you feel good about.

What thoughts, feelings, or sensations did you experience?

3. Please describe a recent interaction with your child that left you feeling frustrated. What thoughts, feelings, or sensations did you experience?

4. What do you find most challenging about your child's behavior?

The following questions were asked at the end of eight weekly training sessions.

Since completing the training:

1. What differences do you notice in yourself? What thoughts, feelings, or sensations did you experience?
2. What differences have you noticed in your parenting interactions with your children? Do you notice when you respond to your child in a mindful way? In a non-mindful way?
3. What, if any, differences have you noticed in your children's behavior?
4. Please share a story about a time when you have interacted with your child in a mindful way. What thoughts, feelings, or sensations did you experience?

Interviews lasted approximately 30 minutes and were audio recorded with the participants' permission. Audio recordings were transcribed and all files were stored on a password protected server.

Interview data were analyzed using the Listening Guide method. The Listening Guide originated in the analysis Gilligan (1982) used in her work, *In a Different Voice*. It was developed by Brown and Gilligan (1991) and further articulated by Gilligan, Spencer, Weinberg, and Bertsch (2003):

Because every person has a voice or a way of speaking or communicating that renders the silent and invisible inner world audible or visible to another, the [Listening Guide] method is universal in application. The collectivity of different voices that compose the voice of any given person—its range, its harmonies and dissonances, its distinctive tonality, key signatures, pitches, and rhythm—is always embodied, in culture, and in relationship with oneself and with others. Thus each person's voice is distinct—a footprint of the psyche, bearing the marks of the body, of that person's history, of culture in the form of language, and the

myriad ways in which human society and history shape the voice and thus leave their imprints on the human soul. (p. 157)

Further, Doucet and Mauthner (2008) suggest that the “Listening Guide provides a multi-layered way of tapping into methodological, theoretical, epistemological, and ontological dimensions of the narrated subject” (p. 399) by addressing four questions about voice: “Whose voice? In what body? Telling what story about relationships (from whose perspective and from what vantage point)? In what societal and cultural framework?” (Brown & Gilligan, 1991, p. 43).

The Listening Guide method comprises four data analysis steps “which together are intended to offer a way of tuning into the polyphonic voice of another person” (Gilligan et al., 2003, p. 157).

1. Listening for the Plot & Listener’s Response to the Interview
2. I-poems
3. Listening for Two or More Contrapuntal Voices
4. Composing an Analysis

The Listening Guide method has been employed in a number of fields and topics including mother-daughter dyads in adolescent families of color (Biederman, Nichols, & Durham, 2010), women in workplace transition (Balan, 2008), and women’s experiences of motherhood and postnatal depression (Mauthner, 1999).

The Listening Guide is a good fit for analyzing interview data from study participants foremost because of the assumption it shares with attachment theory (Bowlby, 1982), the ecological model of development (Bronfenbrenner, 1979), brain

research (Schoore, 2000a), and mindfulness practice (Kabat-Zinn & Kabat-Zinn, 1997; Siegel, 2007a). This assumption is that “human development occurs in relationship with others and, as such, our sense of self is inextricable from our relationships with others and with the cultures within which we live” (Gilligan et. al., 2003).

Summary

In summary, two self-report questionnaires (FFMQ, ECR) and semi-structured interviews were used to explore and describe the impact of mindfulness-based practices on attachment-related strategies and parent-child relationships. Participants in this study are mothers who live in transitional housing in a small Midwestern city. Well over half of the families in this community are people of color. Seventy-five percent of families are headed by single mothers with at least one child under the age of five. In those households the poverty rate is over 80%. Questionnaire data will be analyzed according to their individual scoring protocols. Interview data will be analyzed using the Listening Guide method.

CHAPTER 4. RESULTS

This chapter will describe the study setting and context, procedures, and implementation of mindfulness training, and Listening Guide results and analysis. The problem statement, purpose, and research questions are repeated here for the reader's convenience.

Problem Statement

Given the lifelong ramifications of a child's first experiences and relationships, this study concentrates on a gap in the literature regarding applications of mindfulness to parenting practices by exploring the implications of mindfulness practices for recently homeless mothers living in transitional housing amid multiple stressors, and healthy relationships with their children.

Purpose

The purpose of this inquiry is to explore and subsequently describe the experience of mindfulness-based practice for mothers living in transitional housing and the nature of their relationships with their children.

Research Questions

The key questions are:

1. What are the perceived effects of mindfulness practices on the qualia of mindfulness, attachment-related strategies, and the nature of the parent-child relationship for mothers living in a transitional housing program?
2. What is the lived experience of these mothers in practicing mindfulness?

3. What relationships, if any, are evident between attachment-related strategies, mindfulness, and the nature of the parent-child relationship?

Setting and Context

During the fall of 2012, I introduced and led mindfulness training sessions as part of an established parenting education group at a transitional housing program site. I established reciprocity and rapport with the group over the course of 18 months, in which I assisted the licensed parent educator and completed student teaching the semester before undertaking this project. Participation in the two-hour weekly women's parenting group is voluntary and childcare is provided. There is great variety in the group in terms of age, race, literacy, education, interpersonal skills, physical and mental health, number of instances and length of homelessness, family configurations, and parenting competencies.

The transitional housing program is located in a medium sized city with a population of approximately 86,000 residents. People of color comprise 10% of the population (African American, American Indian, Alaska Native, Asian, report two or more races, or are of Hispanic or Latino origin). Fifty-one percent of residents are female, 6% are under five years of age, and 21% live below poverty level (one adult with two children < \$17,568).

Six mothers began the study. One moved after completing the initial survey and interview; she did not return to the parenting group within the study timeframe. The remaining five participants ranged in age from 23-61 years of age. Two identified as African American, two as Native American and White, and one as White. Family

configurations included mothers with very young children living with them, mothers whose children were living in foster care, as well as mothers of adult children and grandchildren; 20 children total. All five participants reported having been victims of domestic violence. The number of instances of homelessness ranged from once to three or four times, for periods of one to 36 months.

Procedure and Implementation

Introducing Mindfulness

Mindfulness practice was placed at the end of the two-hour parenting group to serve as a transition from the parenting group to reuniting with children and returning home. The first session began with an introduction to mindfulness. Participants were provided with a magnetic clip to post reminder cards at home, and a timer. At the conclusion of this and following sessions, participants were given homework and reminder cards. Reminder cards included information about the practice of the week and space to track the days the practice was completed at home. As a literacy aid, the reminder cards included a corresponding picture.

I opened each mindfulness practice with an invitation similar to the following:

I invite you to close your eyes ... take a few deep breaths ... settle into this time ... leaving behind the things that happened earlier today and not jumping ahead to what you have to do when you leave here. Give yourself this gift of time.

In Session 1, Jon Kabat-Zinn's (1991) definition to introduce mindfulness was offered: paying attention in a particular way; on purpose, in the present moment, and without judgment. A cartoon (unknown origin) was helpful in visualizing this idea. Titled, "Mind Full, or Mindful?," it depicted a person walking across a landscape with a

dog. Above the person's head was a bubble full of depictions of thoughts and emotions. Above the dog's head was a bubble that contained just the things in front of them—a few trees, the horizon, and the sun.

We discussed mindfulness on the context of parenting as paying attention to what's really important in the present moment, being connected with our children in a non-judging and non-reacting way. I told a story about a child who, in the rush to get ready for school, spilled milk all over the hot pancakes her mother just made, turning them into mush and a mother's harsh kneejerk reaction. We discussed how automatic reactions are pathways formed in our brains by repeated use over time and how we can blaze new trails by making different choices. To illustrate the point, I asked them to imagine a recent unpleasant situation for a few seconds, followed by imagining a pleasant situation, noticing changes in the internal experience of these instances. I also asked them to consider a picture of the rabbit-duck optical illusion (Jastrow, 1900) as a way to investigate the notion that we *see* what we pay attention to and the changing nature of the *seeing*.

We completed the raisin exercise from MBSR program (Kabat-Zinn, 1991) to experience what it means to pay attention in the present moment. We ended with two minutes of mindfulness meditation and bringing attention back to the breath each time attention wandered. I selected two minutes based on an answer to a question during a seven-day residential MBSR training retreat. A participant who teaches meditation to veterans experiencing PTSD related to the group that she started with two minutes because it was all the participants could tolerate. The instructors affirmed the choice,

indicating that it was wise to meet people where they are. This choice was also affirmed by Chas DiCapua (personal communication, March 20, 2013), who taught that practice begins with a momentary act of mindfulness, which might mean sitting for only a moment.

This parent group has only a few ground rules; among them is the *two feet* rule. Participants are at different points along their journey and we ask that they take care of themselves, which means they come and go as they need to without stopping to offer an explanation. This builds self-trust and trust in the facilitators. Although no explanation for leaving the group or returning is necessary, participants often offer one, which have included rising anxiety, interpersonal conflict, and desire to be alone or with their children.

So, before beginning mindfulness practice, I described a few options for exiting quietly to minimize disruption for the women who engaged in mindfulness practice. Women who did not want to participate in this study did participate in the mindfulness practices. Homework after Session 1 included:

- setting the intention of paying attention, on purpose, each morning
- catching yourself paying attention, throughout the week (e.g., kids, dishes, shower)
- gradually working up to five minutes of meditation each day

Seven more sessions followed over the ensuing weeks, presenting the topics of yoga practice, body scan, mindful eating, lovingkindness meditation, seeing the world

from a child's point of view, and combinations of these practices. Descriptions of these sessions are included in Appendix A.

Results and Analysis

Organization of Analysis

This section presents an in-depth application of the Listening Guide methodology to one of the interviews completed for this project. The purpose is to familiarize the reader with the particularities of the process. The same Listening Guide method was applied to the remaining four interviews; these results are presented according to the fourth step in the process: synthesizing the data gathered from the first three steps and composing an analysis.

The Listening Guide

The Listening Guide is a qualitative, feminist, relational rather than patriarchal, voice-centered method of analysis. It originated in the analysis used by Gilligan (1982) in her seminal work, *In a Different Voice* (Brown & Gilligan, 1991). It was further articulated by Gilligan et al. (2003). Brown and Gilligan (1993) write:

Voice is central to our way of working – our channel of connection, a pathway that brings the inner psychic world of feelings and thoughts out into the open air of relationship where it can be heard by oneself and by other people. (pp. 14-15)

The Listening Guide is a “pathway into relationship rather than a fixed framework for interpretation” (Brown & Gilligan, 1993, p. 14-15). Its goal is to

elicit the complexity embedded within a text in an effort not to reduce the tensions to discrete categories but to raise up the beauty of the human psyche and assist the researcher in navigating the bumpy road terrain of relational life. (Raider-Roth, 2005, p. 188)

The Listening Guide “provides a multi-layered way of tapping into methodological, theoretical, epistemological, and ontological dimensions of the narrated subject” (Doucet & Mauthner, 2008), p. 399). In the case of women, listening to “women in women’s terms, rather than assimilating women’s voices to the existing theoretical framework” (Gilligan, 1995). Four questions explicate these voices: “Whose voice? In what body? Telling what story about relationships (from whose perspective and from what vantage point)? In what societal and cultural framework?” (Brown & Gilligan, 1991, p. 43).

The Listening Guide pathway into the relationship between researcher and research participant comprises four steps: listening for (a) plot, (b) I-poem, (c) contrapuntal voices, and (d) composing an analysis (Brown & Gilligan, 1991).

1. The first time through the narrative, the listener focuses on the plot and includes the listener’s own thoughts and feelings about the narrator’s story and what the listener knows about herself and her response.

2. The second listening focuses on the narrator’s distinct first-person voice and how she speaks about herself.

3. The third listening attends to the contrapuntal voices—the different voice threads within the story.

4. The last step is a synthesis and analysis of the previous listening in regard to the research question(s).

Five stories are presented in the Listening Guide format. To illustrate the use of the Listening Guide, Aurora’s story is interpreted in detail.

Aurora

Step One: Listening for the Plot

In attending to the plot, the listener brings awareness to the landscape, the multiple contexts, within which the story is rooted. I met Aurora two years ago and followed her progress from transitional housing through her recent *graduation*. She now lives in her own apartment a few blocks away, and continues to participate in the weekly parenting group at the transitional housing complex.

As a woman, mother, and grandmother, Aurora has faced the trials and travails confronting the women who are currently living the transitional housing experience. She is a source of strength and hope for those women who are currently in the thick of it. In addition, her perspective as a mother of adult children, grandmother, and former daycare provider positions her to offer a long view of parenting, and to empathize with the various stages and parenting concerns of newer mothers. Aurora attended seven of the eight mindfulness training sessions.

The plot that emerged from Aurora's pre-training interview related to her sense of herself as a mother and grandmother. She spoke of the challenges related to parenting adult children and a recent strain in her relationship with her daughter. She recounted her continuing personal growth with delight, including her deepening understanding that taking better care of herself led to improvements in her relationships with her children and grandchildren.

Step Two: Listening for First-person Voice; Constructing I-Poems

Step two calls for attention to the speaker's first-person voice—to pick up its unique cadence and rhythm—and second, to hear how this person speaks about herself, before assuming that one is prepared to speak about another or write an interpretation. From this perspective, the researcher speaks with another person as opposed to about them. Tuning into another person's voice is a way of being in a relationship, which makes it more difficult to objectify that person (Gilligan et al., 2003), reminiscent of these lines from Martin Buber (1958):

I become through my relation to the Thou;
As I become I, I say Thou.
All real living is meeting. (p. 11)

This approach does not render the researcher neutral or invisible. Rather, it acknowledges that data analysis without reflexivity is a fundamentally subjective interpretive process subject to the ontological and epistemological assumptions of the data analysis methods by those who create and use them (Mauthner & Doucet, 2003).

Two rules govern the construction of an I-poem. First all of the I-statements: seemingly important accompanying words are identified, extracted, and kept in the exact order in which they appear in the larger text. Each phrase is placed on a separate line and like the lines of a poem may fall into stanzas reflecting shifts in the story (Gilligan et al., 2003). The I-poems for this project were constructed by reading interview transcripts for first-person voice; each I-statement was highlighted and then cut and pasted in the order it appeared into a poem format. The poems settled into stanzas which reflect natural breaks in stories, pauses between thought, and shifts in the speaker's voices.

Gilligan's work seldom included more than *I* and the following verb. I have at times included additional phrasing; I also included *me*, *my* or *we* when the participant spoke about herself in order to convey a fuller understanding of the story's context (Balan, 2008). On a few occasions I left out an I-statement to respect the participant's privacy.

Pre-training I-poem. The I-poem that emerged from Aurora's pre-training interview reflects the embodiment her overall experience of being a parent.

I'm loving, consistent
 I'm a good listener
 I always explained why I'm doing what I'm doing
 I guess I always – before we go anywhere I always tell them the rules
 I think one of the most important things you have – you're consistent
 I have three children
 I have grandchildren

My daughter's grown
 Sometimes we don't see eye to eye
 I decided to just be a listener and not tell her what to do, or anything – just listen
 Before that we were just having argument after argument
 I finally got it
 I came up with how to deal with her
 We just wouldn't interact
 We talk we just get into arguments
 I love her and I just felt like I failed her

I think I feel more tense
 Now, well, I'm calm
 I feel happy inside
 I finally got it
 We can talk

I was on pins and needles every time I talk to her I would tense up. And you know, then sometimes get headaches or just feel terrible.
 I think that's the most important thing is to not take it personally
 I don't think I've ever told my kids
 I think sometimes we as mothers we just come out and it sounds like that to them

I think that's really hard

I think just as me growing and relieving some of my stress
 I've changed
 My life experiences and how I deal with myself and then how I deal with them is
 different
 I'm trying
 I changed
 I think

Aurora's I-poem captures the voices of a young mother, a mother of adult children, at times stressed and regretful and at other times clear, confident, and transformed, particularly when she speaks of *just listening*, *getting it*, and the ways she has grown in recent years. While this poem reveals Aurora's first-person voice, there is also evidence of the landscape in which her story is rooted. In particular, her statement, "I just felt like I failed her," reflects an internalization of a culture which places primary responsibility for childrearing on women as well as the blame when things go wrong in a child's life.

Post-training I-poem. Aurora participated in a second interview after eight sessions of mindfulness training. Since the topic of the interview was her experience and the outcomes of the training, the word mindful appears several times in the transcript. However, she described many more instances of mindful behavior in the second interview. The I-poem that emerged from this interview was four pages long. So in the interest of space and time, three poems are presented here in the order they occurred in our interview. The first poem reads:

I was
 I was making
 I had pumpkin

I have had it forever
 I thought
 I cooked it
 I was trying
 I was trying the blender
 I tried the mixer
 I tried a blender again
 We had pumpkin all over
 I just started laughing
 I go "Awh, look at it"
 I have pumpkin all over
 Instead of ... "Oh, what a mess I have to clean up"

Through this account and I-poem, Aurora is heard in a non-reacting stance. The second excerpt from the I-poem read:

Right after I said it
 I, you know, wanted to it take back
 I think
 I was talking to my daughter
 I didn't like what she said
 I said something like
 I would never do that

I thought
 I shouldn't have said that
 I explained to her
 I just didn't like it
 I just reacted

I said
 I was sorry
 I would've waited before
 I said
 I was sorry
 I said it right away instead of waiting

Listening to this poem, it is apparent that Aurora continues to focus on bettering her relationship with her daughter. In this instance her voice captures ingrained thought and behavior patterns as well as the distress she felt during this conversation. In the midst

of this interaction with her daughter, she became aware of her internal processing, was mindful of her judgmental reaction, managed her emotions, and made the choice to course-correct. She leaned in and acted in the moment to apologize instead of putting it off. She chose to be present with her daughter instead of holding on to her judgments.

The week following the second interview, Aurora shared a story about taking care of her grandchildren during their week-long school break. The third I-poem that surfaced expresses her thoughts and feelings about the ways she has changed in the last few months. She seems very clear and unconflicted about her choices to focus her attention on her grandchildren and be gentler with herself by letting go of traditional conceptions of the roles of grand/mothers.

I think that it's in my head
I've changed.

I didn't care about my housework
I didn't care about the laundry
I didn't care about any of that stuff

I think
I've learned
Before I was
I've got to get this done
I've got to get that done
But it was like, "No, they don't come that often.

So who cares my apartment is still a mess
I'm going clean it
I'd rather have the mess than not have them there
I miss them already.

Step Three: Listening for Contrapuntal Voices

The first two listenings of the Listening Guide focused on getting a sense of the terrain and plot of the story and the way the participant speaks about herself in the first-person voice. Step three directs the listener's attention to the simultaneous, co-occurring voices "hearing and developing an understanding of several different layers of a person's expressed experience as they bear on the research question" (Gilligan et al., 2003, p. 164). The logic for this step was drawn from music where *counterpoint* refers to lines of music that sound very different from and move independently of each other and yet sound harmonious when played together (Rahn, 2000).

The multiple lines of a story sound very different from one another and move independently of each other in relationship and may be harmonious, opposite, or contradictory (Gilligan et al., 2003). Each of the transcripts for this project was electronically color-coded for contrapuntal voices. Several voices came forward in the stories collected for this project; the voices that relate to the research questions are:

- The voice of relationship (mother in relation with child)
- The voice of attachment-related strategies (self and co-regulation)
- The voice of mindfulness

For the purposes of this work, the voice of attachment-related strategies speaks to security-based and secondary attachment strategies evidenced in part by the dimensions of avoidance and anxiety, affect regulation, and co-regulation. The voice of relationship speaks to and illuminates the bidirectional flow between mother and child, which can, as Ruddick (1995) points out, be love and care "intermixed with hate, sorrow, impatience,

resentment and despair: ambivalence is the hallmark of mothering” (p. 68). Last but not least, the voice of mindfulness emerges as a person is mindful. The following sections explicate each of these voices at some length so that the reader will know how the listener knew these voices when she heard them.

The voice of relationship. The voice of relationship describes “connection as primary and fundamental in human life” (Gilligan et al., 2003, p. 157), and for the purposes of this project it describes the complex mother-child relationship. This voice expresses a deep and enduring bond reflected in maternal practices: “the engaged and committed feelings and activities meant to preserve, nurture, and enable children to develop or unfold in their potential ... to grow and thrive in its particular social world” (Vander Valk, 2010, pp. 722-723). It is evocative of Gilligan et al.’s (2003) feminist ethic of care, the notions that “the conception of a separate self appears intrinsically problematic,” there is no opposition between relationships and self-development in caring and “the desire for relationship, pleasure in connection, and the ability to make and maintain relationship are present at onset of development” (p. 157).

The voice of attachment-related strategies. This voice describes the security-based or secondary attachment strategies participants used in affect regulation, particularly in co-regulating with their children, and the degree to which they were able to cope with the monitoring and appraisal of:

- threatening events: responsible for *proximity seeking*,
- the availability of external or internalized attachment figures: responsible for individual differences in attachment security and *security-based strategies*, and

- the viability of proximity seeking as a means of coping with attachment insecurity and distress: responsible for individual differences in the development of specific secondary attachment strategies (*hyperactivating versus deactivating strategies*) (Mikulincer, Shaver, & Pereg, 2003; Shaver & Mikulincer, 2002).

The voice of attachment is reflected by security-based strategies, which are

aimed at alleviating distress and bolstering personal adjustment through constructive, flexible, and reality-attuned mechanisms. Moreover, they create what we, following Fredrickson (2001), call a “broaden and build” cycle of attachment security, which builds a person’s resources for maintaining mental health in times of stress and broadens his or her perspectives and capacities. (Mikulincer et al., 2003, p. 82)

This voice is typical of people who score low on self-reports of attachment anxiety and avoidance (Bartholomew & Horowitz, 1991; Brennan et al., 1998), are comfortable with closeness and interdependence, and rely on support seeking and other beneficial means of coping with stress (Mikulincer et al., 2003). It is exemplified by

- positive expectations about others’ availability,
- positive views of the self as competent and valued,
- affect-regulation strategies organized around these positive beliefs,
- restoration of emotional equanimity without creating negative socioemotional side effects,
- engagement in instrumental problem solving made possible by down-regulating distress,
- the promotion of self-actualization,

- exploration of new stimuli and environments,
- revision of one's knowledge base following receipt of new evidence,
- less hostility toward out-group members, and
- a more empathic stance toward people in need (Bowlby, 1982; Mikulincer et al., 2003; Waters, Rodrigues, & Ridgeway, 1998).

In comparison, the disregulated voices of secondary attachment strategies are anxiousness defined by an overwhelming need for closeness, worries about relationships, and fear of being rejected, or avoidance defined by compulsive self-reliance and preference for emotional distance from others.

The voice of mindfulness. Describing the voice of mindfulness is simple. As I was reminded recently, “Mindfulness is mindful” (DiCapua, personal communication, 2013). “Mindfulness practice is simple and completely feasible. Just by sitting and doing nothing, we are doing a tremendous amount” (Mipham, 2010, n.p.). When we are mindful we are beginning to notice: “It’s like this now” (Sumedho, 2010, pp. 128-129), and we begin to observe conditions as they arise and pass away with a degree of equanimity.

Describing something and conceptualizing it puts degrees of distance between us and that experience; the same distancing occurs when we attempt to describe mindfulness. For instance, voice the concept of *snowing* is different and subtly distanced from the experience of an embodied beholding of *cold, wet, floating, falling, glimmering, crunching, white*. Hui neng (1998) illuminated this notion in the following passage:

All verbal and literary expressions are like labels, like pointing fingers. Labels and pointers mean shadows and echoes. You obtain a commodity by its label, and you see the moon by way of the pointing finger – the moon is not the finger, the label is not the thing itself ... literature is visible to the physical eye, but the teaching is visible to the eye of insight. (p. 104)

When we are pointing to the different pointers (the finger in this case), we are not experiencing.

To a close approximation, philosopher Maxine Greene (1977) employs a similar approach. She points, for example, at the *moon* of existential *wide-awakeness*, making it visible to the eye of the reader's insight by offering the reader encounters with the arts to behold and contemplate. She creates the condition for a reader to experience her meaning rather than describing it directly.

In this spirit ... we hear the voice of mindfulness as the practice of moment-to-moment curious attention in Narayan Liebenson Grady's (n.d.) poem, "When Singing, Just Sing: Life As Meditation":

When sitting, just sit
 When eating just eat
 When walking just walk
 When talking just talk
 When listening just listen
 When looking just look
 When touching just touch
 When thinking just think
 When playing just play
 And enjoy the feeling of each

An expression of mindfulness related to the uneven terrain of the internal world, the body, and the environment is present in Rumi's poem, "The Guest House," (Jalal, Barks, & Green, 1997):

This being human is a guest house.
Every morning a new arrival.

A joy, a depression, a meanness,
some momentary awareness comes
as an unexpected visitor.

Welcome and entertain them all!
Even if they're a crowd of sorrows,
who violently sweep your house
empty of its furniture,
still, treat each guest honorably.
He may be clearing you out
for some new delight.

The dark thought, the shame, the malice,
meet them at the door laughing,
and invite them in.

Be grateful for whoever comes,
because each has been sent
as a guide from beyond. (p. 77)

In turn, this attending helps us relate to ourselves, others, and the environment with patience, compassion, and acceptance. For as found in the *Sutta Nipāta* (Norman, 1992):

As I am, so are others;
as others are, so am I.
Having thus identified self and others,
harm no one nor have them harmed

The mindful voice has a reflexive character and contemplates without mental proliferation (Bodhi, 2000). It embraces the simplicity of, “It’s like this now.” It practices the art of not getting swept up in the current of a stream of consciousness. It kindly investigates thoughts, sensations, emotions, and phenomena without identifying with or believing in them. The mindful voice is benevolent in the presence of our craving,

clinging, aversion, and flights of fancy. Going back to the earlier *snow* example, being mindful is bringing attention to *cold, wet, floating, falling, glimmering, crunching, white*.

Inevitably, minds wander. A favorite way of describing this phenomenon is *monkey mind*, depicted by Thubten Chodron (1995):

“Just as a monkey swinging through the trees grabs one branch and lets it go only to seize another, so too, that which is called thought, mind or consciousness arises and disappears continually both day and night.” (S.II,95). Anyone who has spent even a little time observing his own mind and then watched a troop of monkeys will have to admit that this comparison is an accurate and not very flattering one. On another occasion the Buddha said that a person with uncontrolled **craving** “jumps from here to there like a monkey searching for fruit in the forest” (Dhp.334). In contrast to this, the Buddha asked his disciples to train themselves so as to develop “a mind like a forest deer” (*miga bhūtena cetasā*, M.I,450). Deer are particularly gentle creatures and always remain alert and aware no matter what they are doing. (n.p.)

Monkey mind goes something like this:

Cold, wet (mindful)... Yay ... snow ... snow, again, really? ... it's supposed to be spring (craving) ... last time this year it was 70 degrees ... that's 61 degrees warmer than today (clinging) ... the kids were trying to see if peeps really blow-up in the microwave ... I wonder what the roads are like ... Ugh ... more shoveling (aversion)... if I won the lotto I'd move somewhere warm (flight of fancy) ... Oh!

And when we wake up, when we notice this mind-wandering, we gently bring our attention back to the anchor experience of, *cold, wet* ... until the next time our mind goes a wandering, and so on. Rumi (Citlak & Bingul, 2007) writes:

Come, come, whoever you are
Wanderer, worshipper, lover of living.
It doesn't matter.
Ours is not a caravan of despair.
Come, even if you have broken your vow
a thousand times
Come, yet again, come, come. (p. 81)

The voice of mindfulness is heard when a grandmother chooses to let go of the notion that a *good* grandmother is a *good* housekeeper and embraces her *messy* apartment for a week in order to really be with her grandchildren. We hear it in a mother's choice of an open, kind, and compassionate response to a child who does not make it to the bathroom in time; and it is heard in the mother's noticing the change in her child's demeanor when he realizes that she is not going to *overreact*. Mindfulness is heard in the voice of a mother who chooses to pause and notice what she is feeling before grabbing a cigarette—and eventually no longer needs to smoke. These are poignant reminders of Ajahn Sumedho's (2010) observation: "Wisdom does not come from studying great theories and philosophies, but from observing the ordinary" (n.p.).

At the end of the day, when we are mindful, we are beginning to notice, "It's like this now" (Sumedho, 2004, pp. 128-129), and through mindfulness practice we develop and strengthen it, discovering the calmness and harmony of our mind and eventually residing peacefully there (Mipham, 2010).

Aurora's contrapuntal voices: Pre-training. In light of the questions about perceived effects of mindfulness practices on the qualia of mindfulness, attachment-related strategies, and the nature of the parent-child relationship and potential relationships among them, one story from the pre-interview was selected to demonstrate the Listening Guide process. The I-statements are underlined:

I have three children – but I have grandchildren. Well, my daughter's grown. And she's going through a difficult time. And it seems like sometimes we don't see eye to eye. So I decided to just be a listener and not tell her what to do or anything – just listen. And say when she's doing something good, say, "good." Because before that we were just having argument after argument, so ... Yeah, that I finally

got it! Well that would be before I came up with how to deal with her – instead of not talking to her because it got to the point where we just wouldn't interact. Every time we talk we just get into arguments – and it was just so frustrating and you know I love her and I just felt like I failed her. I think I feel more tense – Now, well I'm calm – I feel happy inside that I finally got it, we can talk. (Aurora, personal communication)

The passage was color-coded to identify each contrapuntal voice (attachment-related strategies, relationship, mindfulness). Each one was pulled out of the story and grouped together to hear how Aurora spoke about herself in relationships and in particular what was happening in her relationship with her daughter:

Well, my daughter's grown. And she's going through a difficult time ... we were just having ... how to deal with her ... because it got to the point where we just wouldn't interact. Every time we talk we just get into arguments ... I love her and ... we can talk. (Aurora, personal communication)

In this compilation we hear the ups and downs of attachment-related strategies:

Sometimes we don't see eye to eye ... and not tell her what to do or anything ... argument after argument ... instead of not talking to her - and it was just so frustrating ... I just felt like I failed her. I think I feel more tense – Now, well I'm calm – I feel happy inside. (Aurora, personal communication)

And lastly, we hear moments of mindfulness:

So I decided to just be a listener ... just listen. And say when she's doing something good, say good ... Yeah, that I finally got it! ... I finally got it. (Aurora, personal communication)

Next, in order to visualize how these voices relate to one another (Gilligan et al., 2003), they are presented together in context. Where Aurora spoke about herself in relationships as mother and grandmother, passages are italicized. Those illustrating a sense of attachment-related strategies are bolded, and those showing a sense of mindfulness are contained in brackets. I-statements are underlined.

*Well, my daughter's grown. And she's going through a difficult time. And it seems like **sometimes we don't see eye to eye.** {So I decided to just be a listener} **and not tell her what to do or anything** – {just listen. And say when she's doing something good, say good.} Because before that *we were just having **argument after argument***, so ... {Yeah, that I finally got it!} Well that would be before I came up with *how to deal with her - instead of not talking to her because it got to the point where we just wouldn't interact.* *Every time we talk we just get into arguments - and it was just so frustrating* and you know *I love her and I just felt like I failed her. I think I feel more tense* – **Now, well I'm calm - I feel happy inside** that {I finally got it,} *we can talk.* (Aurora, personal communication)*

In the counterpoint between these voices, listening for the interplay and relationships among them, we hear Aurora's distress over a quarrelsome time with her daughter, her awareness of how it affects her, and the responsibility she feels for fixing it. In the flow of this passage there is a see-saw pattern of the regulating and relationship voices: we are connected, we argue, we are connected, "I failed her," which seem to balance out in the end.

These contrapuntal voices convey the level of love and care Aurora has for her daughter and her investment in maintaining their relationship, which is exemplified by the refrain-like use of *we* that repeats throughout this story. She is aware of and supports her daughter's personal sovereignty, autonomy, and individuality. She finds a way to cope with their arguments by "just listening" and then realizes that she "finally got it" (Aurora, personal communication). Listening helps keep them in relationship. It is not clear if she is aware of how harshly she judged herself.

Aurora's contrapuntal voices: Post-training. After eight sessions of mindfulness training (20 minutes average), participants were interviewed again. Two selections are included here; both stories are about her grandchildren. The first is about

cooking a meal together and the other is a reflection about Aurora's experience of caring for her grandchildren the week of spring break. The notation scheme for the contrapuntal voices is the same throughout: *relationship*, **attachment**, {mindfulness}. In this first passage Aurora is cooking with (in relationship with) her grandson.

{Now I think about – instead of reacting right away, I'll think about it. Like, “Okay, think about it. You just gotta do this.”} *Especially with my grandchildren.* {“You have to do this in a loving way. So, how would you do it instead }of, you know, if they did something, “**Ahhh!! look what you did you.**” (in a chiding voice) {“No, you think about it”} like, it's no problem,” *Let's clean it up together.*” You know, that kind of thing; it's like *I try to make our **happy times** so they'll remember grandma was always happy ...* I think about the same thing, you know, like, was it *my grandson* who did something – oh what did he do? *He was cutting on the counter and I told him before that, “Use the cutting board.” And he goes, “Grandma I'm sorry,” and I said, {“Okay, that's all right.”} He was, “Oh boy, **she's going to yell at me.** She just told me.” And I said, {“Next time, remember – cutting board,”} and he goes, “Okay.” **I might have** (six months ago)– **I probably would've said, “Oh look at that.”** (in a chiding voice.) You know. {Instead I didn't say,} “**Oh look what you did,**” you know, {I just said, “Oh, that's okay.” (kind concerned voice)}. (Aurora, personal communication)*

We hear the voices of attachment and mindfulness very close together as Aurora reflects on how she might have reacted angrily or judgmentally in the past and the ease with which she interacts with her grandson in this story. She emphasizes the pauses she has begun to make between a stressful condition arising and her response. She notices and acknowledges that her grandson expects a harsh reaction to his mistake. Instead she reacts gently, *in a loving way*. She copes with her own stress, models constructive coping for her grandson by down-regulating, and co-regulates her grandson's anticipated reaction to his mistake. Through mindfulness and regulation Aurora stays in relationship with her grandson, she creates a safe haven for him and conditions that support his further exploration of new activities: “Next time, remember – cutting board.” Of note, at the

beginning of this passage Aurora speaks to herself in a second-person voice. This may be the voice of attachment specifically related to internalized secure-attachment strategies exemplified by instrumental problem solving and a down-regulating of distress so that coping can take place.

In this second passage, Aurora recounts her grandchildren's spring break and her care for them over the course of that week. Again we hear Aurora comparing how she would have reacted in the past to recent changes.

{I think that it's (mindfulness) in my head,} that when they are, {that's what I've changed. I didn't care about my housework. I didn't care about the laundry. I didn't care about any of that stuff.} They *had to clean up the messes they made.* **But, you know. But of course, they don't clean them the way grandma cleans. My apartment looks a mess.** But no, {I think I've learned} that, you know, from being here. {'Cause, you know, before I was: "I've got to get this done – I've got to get that done."} But it was like, "No, *they don't come that often.* {So who cares if my apartment still a mess tomorrow.} I'm going clean it ... {I'd rather have the mess than not have them there.} *As soon as they walk out the door – I miss them already.* (Aurora, personal communication)

She clearly and confidently acknowledged awareness of her previous attention to housework and the acceptance of conventional cultural ideas about grand/motherhood in which she is embedded, and made a shift. She chose to embrace her *messy* home, put aside her worries about all that she has to *get done*, and mindfully held her grandchildren in relationship.

Step Four: Composing an Analysis

With a trail of underlining, highlights, notes, and summaries from the first three steps of the Listening Guide process, the listener-researcher synthesizes in the fourth step what has been learned about this person in relation to the research question; and provides

an evidence base for the interpretation (Gilligan et al., 2003). A few points of interest emerged from her stories in relation to the perceived effects of mindfulness practices on the qualia of mindfulness, attachment-related strategies, and the nature of the parent-child relationship (and grandchildren.) Prior to beginning mindfulness practice, Aurora understood the relationship between caring for herself and her ability to care for children. Mindfulness training was another step in this direction. It seems clear that mindfulness practice has supported Aurora's self-regulation, which in turn has contributed to vibrant, resilient, bidirectional relationships with her daughter and grandchildren.

The voice of relationship. Throughout the interview Aurora exudes a particular earnestness about staying in relationship with her daughter and grandchildren. Her love and care for them is palpable as is her frustration and harsh judgments of herself under less than optimal conditions. Aurora's account covered a wide spectrum of parenting conditions from stressful to joyful and a broad array of coping strategies which in turn have broadened her perspectives and capacities. For instance, after a tiff with her daughter, not only did she apologize, she did it right away instead of waiting as she would have in the past. Aurora's compassion for herself, her daughter, grandchildren, and even the person who accosted her at the bus stop has expanded. This is connected to mindfulness practice and perhaps more specifically to her affinity for the lovingkindness meditation.

The voice of mindfulness. While there was evidence of dispositional mindfulness in Aurora's pre-training interview, she expressed her belief that she was being more mindful as a result of mindfulness practice. The most obvious change, post-training, was

the addition of mindfulness-related language to her lexicon as well as her awareness and applications of mindfulness – consistent with Baer et al.’s (2006) act-aware facet.

Aurora repeated the phrase, *I’ve changed* throughout the interviews and with more frequency in the post-training interview. There is evidence of her pausing and relaxing which she credits for her moderation or avoidance of negative reactions noting, “I just found it [lovingkindness meditation] real calming” (Aurora, personal communication). She describes how she is shifting from a stance of pity to compassion. She practiced non-judging in her visits to the soup kitchen reflected here in an I-poem:

I stopped the, the judging things
I don’t know why they’re doing it
I try to be more mindful
I don’t know what’s going on in their life. (Aurora, personal communication)

Aurora frequently repeated the phrase, *I think ...*. The tenor of this phrase shifted in the post-training interview to capture what I interpret as a pause, a moment of mindfulness, and a choice of her next step: *think before I react, think of something that isn’t hurtful, think it through*. Her statements, “I’m more mindful” and “I think that it’s [mindfulness] in my head,” appear to indicate that it is a growing part of the way she is in the world (Aurora, personal communication). Her reflexivity throughout the interview shows evidence of deeper capacity for insight which assisted her in self-regulation and in sustaining relationships.

The voice of attachment. Aurora’s newfound calm comportment supports her relationship with her daughter and granddaughter as well as their ability to self-regulate. She found that a listening posture worked better for their relationship than did being upset

or trying to fix her daughter's problems. She was more aware of her grandson's anticipated reaction to the way he expected Aurora to react to his using a knife on the kitchen counter instead of the cutting board. Aurora also seemed pleased that he was comforted by her more mindful response. There is a thread that runs through the voice of *attachment*; I conceptualize it as an arising and passing away of conditions in her family life.

While all three contrapuntal voices were heard across both Aurora's pre- and post-interviews, it was sometimes apparent that more than one voice was speaking in the same phrase. Gilligan et al. (2003) address this phenomenon suggesting the "possibility that one statement may contain multiple meanings, and therefore may be underlined multiple times – see and hear relationships" (p. 165). This further supports relationships, perhaps synchronicities among the voices of the mother-child relationship, attachment-related strategies, and mindfulness.

Summary

This section presented an in-depth treatment of the Listening Guide methodological framework and its application to one participant's lived experience before and after participating in eight mindfulness training sessions. A number of different voices were explored including the participant's first-person voice and the contrapuntal voices of relationship, attachment, and mindfulness within the context of her family and local community.

In the following sections the stories of four other participants (Inanna, Rhiannon, Kalliope, and Phoebe) will be presented through the lens of the Listening Guide

framework. These presentations will be more focused; to borrow an analogy from mathematics, in the previous section I have *shown the work*, to show the thought and process of this approach. In the succeeding sections, after systemically applying the Listening Guide to the remaining interviews, I report the substance of the data without elaborating on the rationale for each step.

Inanna

This section is the Listening Guide analysis of Inanna's interviews. They have been listened to for the plot and the landscape in which her stories are embedded. I have attended to and noted her first-person voice as well as the co-occurring contrapuntal voices in relation to the research questions. Countless color-coded pages adorned with notes and summaries are synthesized here as I interpret Inanna's story. My intention is to speak with her so Inanna's voice is included in this analysis.

I met Inanna two years ago when she was pregnant with her fourth child. She is a young single mother of four children and has dealt with more than her fair share of trauma. Her demeanor is somewhat understated; she is smart, funny, and insightful. She is a forthright leader in the community, committed to social justice issues, and freely shares her thoughtful opinions. Inanna attended six of the eight mindfulness training sessions.

Inanna's narrative was punctuated with a mix of love, pragmatism, and good humor. The plot that emerged from Inanna's pre-training interview related to her sense of her overall parenting interactions with her children was her resilience and dignity in the

face of trauma, and the burgeoning advocacy skills she employs in her own and her children's interests.

Inanna spoke of adopting her own mother's approach to the tasks of mothering (i.e., schedules, cooking, cleaning) and cited a number of ways in which she forged her own path as a mother. She spoke twice in this short interview about wanting her children to have a chance to "be kids ... be their self and not feel bad [about it]" (Inanna, personal communication). She described herself as a "pushover," giving the impression – not that she was easily taken advantage of – but rather that her children have her heart and she holds theirs (Inanna, personal communication). One short passage gives the flavor of the whole interview; notations for contrapuntal voices are also included. Reflecting on her own childhood and its implications for her mothering, she says,

*{I let them be kids} (emphasis) do, or, you know. Everything's already put together for them. **The schedule is already there** {so they can be a kid.} **Like when certain things, like when I wanted to do things for myself as I got older – my mom wouldn't let me and I broke away at 14** (sheepishly then laughter). So, you know, **I don't want my kids to run away from me** because they didn't feel like they have a say, or they don't have a place. You know, to say whatever they feel they can voice whatever they want always; talk, you know. *It's the only way {I'll know}. I don't want them to have fear and be scared not to talk: "Well I can talk to my mom about that"* (in her children's' voice) *I want them to be comfortable with me.* (Inanna, personal communication)*

In the first interview we hear her speak about her love for her young children and the preoccupations of caring for young children like cooking, feeding, cleaning, teething, and sleeping, which are rooted in conventional cultural conceptions of motherhood. She is clear in her desire to maintain close relationships with her children, wanting them to be comfortable with her and not fearful. She speaks of this in the context of a rift with her

own mother at age 14 which perhaps conveys an undercurrent of her own angst about the possibility of losing connection with her children.

An I-poem emerging from this interview exemplified Inanna's situatedness in a culture where she is somewhat isolated as a single mom with sole responsibility for her four children. She lives in a community where people of color, people in low-income brackets, and a history of homelessness are marginalized. This I-poem contains a section where Inanna speaks about crying. Her first-person voice reveals a paradox between conflicting voices: she wants her children to cry less and *use their words*. Here, I think she is negotiating multiple terrains. It is developmentally appropriate for her older children to *use their words*. Inanna values literacy and communication; we hear this throughout both interviews as she speaks about reading books with her children. I was left wondering if there wasn't a component of her trying to ready her children to shield themselves from the consequences of being vulnerable in a culture that she thinks looks down on people like her and her children. In comparison, she realizes the nature of crying as a release of stress, and then describes being strong for her children and hiding her tears from them in plain sight, blaming the tears on a yawn or an onion. The contrapuntal voices of relationship, attachment, and mindfulness dance together in this I-poem:

I said talking
 Instead of them crying, I guess
 I don't understand that
 I came at them like –
 I'll do it with them
 Kind of like tease them
 "I don't understand, 'Waa, Waa'"
 "What does 'Waa' mean?" (Inanna, personal communication)

and

Meltdowns, that's what I call it
 "I'd rather you use your words than crying"
 I said, a challenge for me right now

I used to cry
 I still do
 Sometimes you need to
 I mean it's like that grand cry
 You do feel a little better
 I think
 I feel better sometimes
 When I can actually cry

I just yawned and my eyes are watering or
 I blame it on other things
 I can't hold it in but I'm feeling bad
 I can just cry and they don't know it. (Inanna, personal communication)

Inanna has many opportunities to interact with her children's school including Head Start. There is an instance of mindfulness in another section of the I-poem where Inanna describes listening to her son's thoughts and feelings about the school, encouraging/pressuring him to take on another musical instrument. She withheld judgment and created a safe space where he could speak his truth and make his own decision, which she then supported.

I kind a, you know, just talked to him
 "I heard this and, you know. Is that something you want to do?"
 I asked him.
 I like the fact that he was honest
 I felt like
 I was putting it on him. He took the initiative.
 I felt good
 I let him decide
 I listened to my child.
 Proud

Speak their minds ... [not] what you think I might want to hear. (Inanna, personal communication)

Contrapuntal voices permeate Inanna's descriptions of herself and the joys and frustrations of being a mother in relationship with her children throughout both interviews. The voice of relationship and the fluctuating voice of *attachment* are prominent in the first interview. In the second interview, which focused on her experience of mindfulness training, an interesting pattern emerged with *attachment* and mindfulness voices frequently co-occurring.

Inanna is a mother who is becoming increasingly more mindful in her self-regulation and equanimous relationships with her children. Inanna offered the following story as an example of what she has learned about mindfulness and what I think she knows about herself as a mother who regulates her own stress and emotion and helps her children do the same.

{I was trying to practice that or be like that}. Where I could just **calm down instead of yelling**. {Talk. You know. Instead of reacting or **overreacting**} Just you know {react to whatever the situation was} **and not overreact**. Like *my son he had came home* he took a long walk with the program and he wet his pants. He was brought back from the program with the advocate lady and she was like trying to keep it secret from the other kids and **he immediately started to cry**. *But, (to her son) { "It's okay." } And then he didn't – {I think he was scared}, { [Mom imagining her son's voice] } "Nooo ... oh my God. My mom's gonna be mad at me for peeing my pants out in public." Yah And then my neighbor helped too – letting him know in front of me that she kept it from the other kids. So that helped. But when he was coming home I think he started to cry because he thought I would react ... overreact ... (Mom acting it out) { "Oh my God ... you're about to be 10 years old" } {But things happen} And he was like, "It wasn't just a short walk, it was a long walk and I had the pee before we left." {I'm like, "Okay, well you should've said that though – you know next time." }*. (Inanna, personal communication)

The reader will notice that more than one voice has been noted because as Gilligan et al. (2003) note, there is the “possibility that one statement may contain multiple meanings, and therefore may be underlined multiple times and also allows the researcher to begin to see and hear the relationship between the person’s first-person voice and the contrapuntal voices” (p. 165). This is one of the most multi-layered passages I have come across in these interviews.

Here Inanna is clearly and confidently in relationship – present – with her son. She is empathetically aware of his distress and acts to down-regulate it. She is also aware that she is aware of her son’s anticipation of an overreaction on her part. She is nonreactive and responds calmly and supportively without judging or shaming; she is his safe haven. And the last line is evocative of Inanna acting as a secure base in a mindful way, suggesting that there will be more excursions and he is better equipped to venture off because he knows his mom will be there for him.

I think what permeates Inanna’s thinking in these interviews is staying connected with her kids. She has reported that mindfulness helps her calm and center herself, and decreases her occasional overreactions. She spoke poignantly about non-judging:

You know that really helped as far as knowing how to
Clear my mind without any judgment, Or like
I’m not being lazy.
I’m not – not being a mother
By clearing my mind and sitting here.

I didn’t judge
I don’t judge myself anymore as far as when
I know – the time – “Oh I’m at the boiling point ...Grrrr”
Bring it back down
I can do that now. (Inanna, personal communication)

Inanna has overtly taught her children some of the mindfulness practices including mindful eating and making calm quiet time for themselves. Just as importantly she is modeling mindful self-regulation in their interactions which keeps them connected and in relationship.

Rhiannon

This section summarizes the Listening Guide analysis of Rhiannon's interviews: the first three listening steps were completed, and what is presented here is the fourth step, synthesizing all of the data generated by these previous steps and composing an analysis.

I met Rhiannon about a year ago. She is middle-aged and was homeless for 24 months before entering the transitional housing program. She has a warm and welcoming manner, and the group has bestowed on her an elder/wise-woman role; she freely offers her insightful and caring opinions and has been known to *call* some of the younger moms on their shenanigans. Rhiannon has led a challenging life; she battled addiction in an earlier part of her life, resulting in all seven of her children being placed in foster care. They range in age from 15 to 23 years of age. While she is in contact with three of them, she is in closest contact with her 15-year-old. Rhiannon attended three of the mindfulness sessions. It was a very stressful time for her; she was apartment hunting and transitioning from supportive housing to her own apartment. This process is complicated by the scarcity of landlords who accept Section 8, the conditions and locations of those apartments, and the difficulty in securing even the most minimal furnishings.

Rhiannon's narrative had a different tenor than all of the others. Perhaps this had something to do with her being the only participant who had permanently lost custody of her children. Her first words in the interview were:

I have seven [children]. They're from 23 to 15 is my youngest. Well, um, through my addiction I lost my children. But I learned a lot by that avenue. And I know that parenting is a privilege it's not, um, something that you know everybody just gets to do. (Rhiannon, personal communication)

The plot that emerged from her pre-training interview related to her parenting her 15-year-old from a distance. She stated a number of times how good it felt to be a part of her daughter's life, recounting a few episodes where she teamed up with her daughter's foster mother to address some behavior concerns. It was Rhiannon who advised the foster parents not to return the daughter's cell phone so soon after her misbehavior, and to give her a chance to earn it back. Rhiannon has shared her feelings with her daughter, "These people [foster parents] handpicked you. They really love you, you know. So you owe them respect and I won't accept 'nothing' less" (Rhiannon, personal communication). Even though she's parenting from a distance, Rhiannon still deals with the frustrations of the teenage years, the back talk, and worry over the undue influence of peers.

While the Listening Guide listens for the unique cadence and rhythm of a person's voice, I could not help but hear in Rhiannon's voice the burden of loss, compounded by what came across as a sense of shame over losing her children because of her addiction, and her embeddedness in a culture which on the whole tends to scorn women in her predicament.

Rhiannon is a person of few words and so I have included both her pre- and post-

I-poems here to stand alone:

1.
 I have seven [children]
 Through my addiction I lost my children
 I learned a lot by that avenue
 I know that parenting is a privilege
 I'm in contact with three of them actually
 Yeah, [I'm still parenting]
 I love them
 I love them
 I just keep reassuring them

I had planned to call my daughter tonight
 I kept telling them no don't to give it back to her – she'll you know – let her earn
 it.
 I felt really good about that
 I had to, that's how I was raised
 I had to earn privileges
 It made me feel really good
 It made me feel like I was a part of her life
 I really don't like that – you know that backtalk
 I tell her to go in her room and think about what she's done
 I won't accept nothing less
 I think it's that their peers, their peers they um have a lot of influence over them.
 I am so grateful to be a part of their life.
 Just by the grace of God

2.
 It helped me to relax more
 To take time out for myself
 I'm in a daze
 I'm walking around
 I'm like a robot
 Doing what I normally do
 I stop smoking cigarettes.

I've been wanting to stop
 I usually just, you know, just grab every time
 I get nervous

I like the lovingkindness one
 I'm usually very judgmental in my mind
 I can read people's thoughts
 I just, like, I notice them
 I don't talk to myself in my head
 I can talk myself down

I stopped talking to my daughter
 I just feel like I'm not a good mother
 I'm not raising her
 But with the classes I am relaxed
 I'm able to talk to her
 I don't, like, jump off the handle

I talk to her
 I'm disappointed
 I'm not angry
 I'm just very disappointed
 I can say that much
 I know it's made our relationship more stronger

I try to keep the practice in my daily life
 I'm having my coffee
 I sit back
 I relax and breathe
 Be with myself and just breathe. (Rhiannon, personal communication)

The contrapuntal voices related to the research question wind their way through both the pre- and post-training interviews. The voice of relationship was most prevalent in the initial interview. Rhiannon mentions a number of times how much it pleases her to be a part of her youngest daughter's life. When asked what was important to her in parenting from a distance, Rhiannon replied:

Just to reassure them that *{I love them}* and you know, *what happened ... was drug-related* and ***I just keep reassuring them*** – *don't do drugs and stay in school and {I love them.}* (Rhiannon, personal communication)

The voices of attachment and mindfulness pervade the post-training interview. This interview took place during Rhiannon's very stressful transition into her new apartment and focused on her experience of the mindfulness training; the voice of mindfulness was reflected in her experience of calm and awareness, which was a change from her sense that sometimes she's "in a daze I'm walking around ... like a robot ... doing what I normally do and not paying attention to ... little things" (Rhiannon, personal communication).

The questions of the perceived effects of mindfulness-based practices on the qualia of mindfulness, attachment-related strategies, and the nature of the parent-child relationship emerged from Rhiannon's answer to a question about her experience of mindfulness practice and her ability to cope with being a parent in her extraordinary situation.

Yes it has because, it has because, ***I stopped talking to my daughter because you know I just feel like I'm not a good mother since I'm not raising her and able to be there for her when she you know like really needs me*** but with the classes {I am relaxed and I'm able to talk to her on the phone about school and what's going on in her life.} You know, and then ***when she does mess up {I don't like jump off the handle}*** you know {I talk to her} – tell her {"I'm disappointed and I'm not angry or mad at you. I'm just very disappointed."} *Well our relationship is getting more stronger. I can say that much. She hasn't mentioned anything to me, but {I know} it's made our relationship more stronger. She looks forward, you know, to hearing from me.* (Rhiannon, personal communication)

Rhiannon had been trying to quit smoking cigarettes without much success. She said, "I usually just – grab every time I get nervous, or something doesn't go right, or something goes right" (Rhiannon, personal communication). She credited her mindfulness practice with being able to quit. She used a process of pausing when she felt

the urge to grab a cigarette, checking in with her feelings and motivations, and then deciding whether or not to actually smoke. Eventually her mindfulness practice became a habit, which replaced the smoking habit. She says,

{I try to keep the practice you know but mostly when I'm having my coffee you know I sit back and I relax and breathe and say this is my time you know this just you know be with myself and just breathe.} (Rhiannon, personal communication)

Kalliope

This section presents a synthesis of the data generated by the first three steps of the Listening Guide and composition of an analysis. I met Kalliope six months ago when she was pregnant with her second child. She is in her late twenties and had been homeless for five months before entering transitional housing; she had been homeless one other time in her adult life. She is highly animated and talks very quickly and speaks freely about her struggles with anxiety and addiction; she has been in recovery for almost a year. Kalliope spoke about herself as she read aloud the *affirmation board* which hangs in her bathroom: *I am a great mother. I am beautiful. I have two healthy beautiful children. I have custody.* She attended one mindfulness training session.

The plot emerging from Kalliope's account was one of addiction and recovery, separation and reunion, with a constant undercurrent of angst. She did not seem to be getting the traction needed to move into a new awareness about her life. She spoke of the challenges she experienced and the strategies she used to negotiate her way through rehab. She spoke of being separated from her son during that time, and then being reunited and living with him in a shelter until she entered the transitional housing program. She spoke insightfully about challenges related to her own family's various

reactions to her relapse and negotiating relationships with her first child's father and his family. She was preoccupied with worry about the upcoming adjustment of a new baby and what it would be like to care for two children.

In this excerpt from Kalliope's first I-poem, we hear the bare attention with which she reflected on her parenting before recovery and the insights she gained through treatment.

I actually
 I had a lot of guilt
 I first went to treatment
 I wanted to say
 I'm the best mom
 It took me a little bit to be a little more humble
 I was out
 Maybe I wasn't the best mom
 I started to realize
 I really was doing that's when
 I'm start
 I'm still
 I'm doing it where
 I'm doing the right things now
 I did do
 I know that like it's never going to be erased
 I can make different choices
 I go to pick him up
 I see his face
 I get back
 Me to see him that's a really big one. (Kalliope, personal communication)

At the same time, Kalliope has invested her sense of happiness and well-being in her toddler's need of her.

I like that of him, of feeling that he needs me
 I like that feeling
 It makes me feel good
 it makes me feel like important

I feel like there's a reason for me a purpose it gives me purpose. (Kalliope, personal communication)

In our second interview Kalliope spoke at length about her *anxiety journal* as an aid for describing and managing her anxiety and recording the things she is grateful for. She speaks of her journal writing as a way of being mindful and has been focusing on her breath as a way of calming herself.

The voice of attachment is prominent throughout the second interview as Kalliope tries to manage her anxiety. With regard to the voice of relationship, Kalliope spoke at length about her relationship with her toddler in the first interview. She spoke briefly about her children in the second interview in conjunction with the voice of mindfulness.

{I'm very mindful that when Lila is here I am always on the schedule. When Shane is here I'm always on the schedule} so {I'm always mindful} that I always have something to do you know what I mean and {I might be here in the moment right now but if I look at my calendar I have something else to do so you know, um I guess I go back and forth with it} ... I guess, like I, I guess, like, the thing was with that – I knew that when it comes down to it [Lila] needed something and even though we were trying to do something like I knew that my main ambition or goal at that point in time was to fulfill any duty I needed to do as a mom.}
(Kalliope, personal communication)

Kalliope mentions “schedule” and “structure” throughout both interviews to convey a sense of paying attention to her children and caring for them in a way that she was not able to care for Shane in the chaos of addiction (personal communication). With that in mind, the first few lines of this passage reflect a mindful presence in relationship with her children. We also hear her describe an awareness of the nature of mindfulness – that she can be mindful one minute and be distracted and wander into the future and back again. In the last few lines we hear Kalliope speak about an attempt to participate in a

mindfulness session while her infant was sleeping. And as was bound to happen, Lila woke up and started fussing; Kalliope's very mindful response was to attend to her daughter.

Having listened to Kalliope's story on multiple levels, it seems quite possible that mindfulness will be helpful to her in terms of managing her anxiety and maintaining her recovery, which will benefit her relationship with her two small children.

Phoebe

This section presents a synthesis of the data generated by the first three steps of the Listening Guide and composition of an analysis. I met Phoebe about a year ago. She is in her early twenties and was homeless on and off for two to three years before entering supportive housing. Phoebe is a single mother of two-year-old twins. Phoebe appears shy and reserved; she is soft spoken. She has not been attending the parenting group on a regular basis. She uses the two hours of childcare to take care of herself, stating, "That's like the only free time I have away from my kids so that's my shower time or my cleaning time, uninterrupted cleaning time, and so that you know that's a big reason I wasn't there for most of it" (Phoebe, personal communication). She attended two of the mindfulness training sessions.

The plot emerging from Phoebe's interviews is one of a *single mom first-time mom of twins* – two year olds – who feels *overwhelmed*, outnumbered, and worried. There is a certain amount of chaos in her home as a result. She speaks about feeling resentful concerning the lack of participation by the children's father and at the same time

she seems heartened by the support of her grandmother and more recently her mother.

There is a sense of aloneness and isolation that pervades her stories.

In the initial interview Phoebe did not seem to have a sense of herself as a mother. When asked how she would describe herself and what was important to her about being a parent, she responded, “I’m not sure. I’m new to this. I’m like trying to learn as much as I can” (Phoebe, personal communication). Phoebe spoke about herself in terms of tasks that needed to be completed like keeping the boys on a schedule, teaching them manners, and keeping her apartment clean. She focused on her desire for her twins, who were born prematurely, to keep pace developmentally, “to be on track with everyone else” (Phoebe, personal communication). Her boys reaching milestones is a source of pride for her.

The cadence and rhythm of Phoebe’s voice in both interviews was tentative, flat, and very heavy. There was a quality to her voice that sounded like a low-pitched guttural trill which seemed to be consistent with her expressed sense of feeling overwhelmed and alone. This last stanza of Phoebe’s pre-training I-poem captures the ups and downs of her experience.

When I don’t have to ask them
 I get so proud of them and happy
 Good and proud like I’m doing something right
 They’re learning from me
 My actions really do influence them
 Naptime is frustrating, most frustrating for me
 I have a lot of resentments against people for not being around
 My back a lot my shoulders my neck I’m always tense
 I realize sometimes
 I’ll like be holding my body a certain way
 I’ll like relax it and be like, “What was I doing that for?”
 It just frustrates me that they can’t both do the same thing at the same time

They do team up on me sometimes
I'm a single mom, first-time mom of twins. (Phoebe, personal communication)

In the first five lines Phoebe's reference is to her pride in the boys when they clean up after themselves without being asked to do so. This is consistent with her statements about learning to be a mother; some of her expectations are too developmentally advanced for two-year-olds (e.g., learning their ABCs and numbers).

The contrapuntal voices related to the research question punctuate both interviews, although the voice of attachment dominated the first interview. When asked about her children's most challenging behaviors, she told the following story:

Just when like, {Baby A, Jon, he is so calm} and he'll sit and watched TV for a little while. But {James will always need my attention, no matter how he gets it.} **So he'll open the oven and stand on the oven door or get in the fridge and throw all the food on the floor. It just frustrates me that they can't both do the same thing at the same time** – that one has to be over here and one has to be over there, you know. (Phoebe, personal communication)

Phoebe is aware and mindful of her children's differing temperaments, yet this passage does not show evidence of her being in relationship with them. To the contrary, she starts the story calling Jon, "Baby A." This way of describing a newborn before he is named is routine in hospitals. However, using this language to refer to a two-year-old is unusual. It appears to put some distance between Phoebe and her children.

The perceived effects of mindfulness-based practices on the qualia of mindfulness, attachment, and the nature of the parent-child relationship emerged in Phoebe's second interview. Here there was a clear and poignant expression of the voice of relationship. Phoebe spoke about the affect her ability to stay calm has on her boys. In this passage we also hear the voice of mindfulness and attachment in her ability to pause

and choose a mindful approach to a stressful situation, instead of her previous way of reacting to such a situation.

{I did you know stop and then think about, like, how I was going to react to a situation and then change that, you know I was able to stop and tell myself, “Hey, there’s a better way to deal with this} you know due to what I learned and just the {breathing the breathing help me a lot.} They (the twins) did, **they were more calm and relaxed because I was more calm and relaxed} ... they did get into the fridge and so {instead of like **freaking out** and you know, I just took a few minutes to breathe and, you know, tell myself, “It’s not as bad as it seems; it can be cleaned up. My kids aren’t hurt and so I told them to go sit on the couch and they listened ... better than me **spazzing out or yelling** you know.}** (Phoebe, personal communication)

The high levels of stress and low levels of support in Phoebe’s life surfaced in this interview as a necessary preoccupation with the *care and feeding* of two rambunctious two-year-olds and leaves her with little energy and fewer resources for attending to her own needs, reducing the level of stress in her family or developing a deeper relationship with herself and her children.

Survey Results

Two self-report measures, the FFMQ (Baer et al., 2006) and the ECR (Brennan et al., 1998) were used to assess mothers’ mindfulness and attachment anxiety and avoidance prior to beginning eight possible sessions of mindfulness training, and at the conclusion of the training. Both instruments have a scoring protocol. Because this is a small convenience sample, descriptive statistics were appropriate. Given the small sample, these self-report questionnaires were used to create a baseline, explore possible effects of the mindfulness training, and inform the qualitative data analysis. Scores are described for each participant; there was little change in group scores.

Experiences in Close Relationships Scale

The ECR (Brennan et al., 1998) is a 36-item self-report measure of adult attachment *avoidance and anxiety*; participants rate statements on a 7-point scale ranging from *disagree strongly* to *agree strongly*.

Five Facet Mindfulness Questionnaire

The FFMQ is a 39-item questionnaire rated on a 5-point Likert scale and comprises five subscales:

1. Acting with awareness (actaware) (e.g., I break or spill things because of carelessness, not paying attention, or thinking of something else)
2. Non-reactivity to inner experience (e.g., I perceive my feelings and emotions without having to react to them)
3. Non-judgment of inner experience (e.g., I criticize myself for having irrational or inappropriate emotions)
4. Describing (e.g., I'm good at finding the words to describe my feelings)
5. Observing (e.g., I sense my body, whether eating, cooking, cleaning, or talking). (Baer et al., 2006, pp. 34-35)

Aurora

Aurora's initial ECR score was low for attachment-related anxiety (1.1) as well as low for attachment-related avoidance (2.1) (see Figure 2). According to Mikulincer et al.'s (2003) adaptation of the *attachment system integrative model of the activation and dynamics of the attachment system* (Shaver & Mikulincer, 2002), she could be expected to employ security-based strategies of affect regulation "aimed at alleviating distress and

bolstering personal adjustment through constructive, flexible, and reality-attuned mechanisms” (Mikulincer et al., 2003, p. 82). After attending seven of the eight training sessions, Aurora’s scores increased in both avoidance (0.5) and anxiety (0.5). This still situated her in the quadrant characterized by security-based strategies. It is important to note that Aurora’s father was very ill during this time and passed away within weeks of her completing the post-training survey; now she has no living parent.

Aurora’s pre-training scores ranged from a low in actaware (3.4) to a high in non-judging (4.5). She attended seven sessions, and at the conclusion of the training her lowest rated factor was non-judging (4.1) which was a slight decrease from her pre-training score. Aurora’s greatest gain was in actaware (1.0). She exhibited slight gains in non-reactivity (0.4) and observing (0.5). The combined average for the five factors was 4.0 prior to training and 4.3 after training.

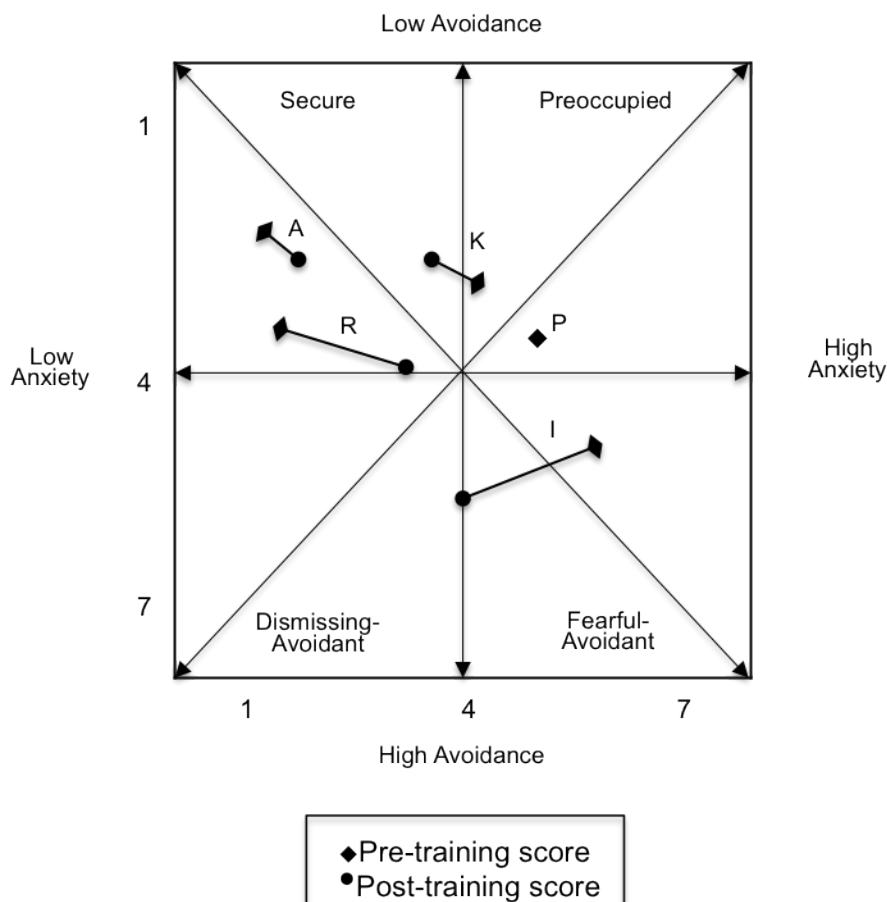


Figure 2. Attachment avoidance and anxiety map of change in ECR scores from pre- to post-training: Aurora (A), Inanna (I), Rhiannon (R), Kalliope (K), and Phoebe (P, pre-training score only). Adapted from “Attachment Styles Among Young Adults: A Test of a Four-category Model,” by K. Bartholomew & L. M. Horowitz, 1991, *Journal of Personality and Social Psychology*, 61(2), 226-244 and “Self-report Measurement of Adult Attachment: An Integrative Overview,” by K. A. Brennan, C. L. Clark, & P. R. Shaver, 1998, in J. A. Simpson & W. S. Rholes (Eds.), *Attachment Theory and Close Relationships* (pp. 46-76), New York, NY: Guilford Press.

Inanna

Inanna's initial ECR score was high for attachment-related anxiety (5.9) and high for attachment-related avoidance (5.9) (see Figure 2). According to the Mikulincer et al.'s (2003) model, she could be expected to employ secondary attachment strategies of affect regulation. High scores on the anxiety dimension usually trigger hyperactivating strategies including constant vigilance, which can produce a self-amplifying cycle of distress, heightened mental rumination on threat-related concerns, and negative views of the self.

High scores on the avoidance dimension trigger deactivating strategies such as striving for self-reliance and independence, distancing from others, avoidance of closeness and dependence (Mikulincer et al., 2003). In their work in adult attachment, Bartholomew and Horowitz (1991) describe the combination of high anxiety and avoidance as *fearful avoidants*. After attending six of eight mindfulness training sessions, Inanna's avoidance score increased by 0.7 (5.7) and the anxiety score decreased 1.9 points (4.0): less anxious and more avoidant.

Inanna's scores ranged from a low in actaware (1.9) to a high in observing (4.0). After training, her low score was actaware (2.0) and high score remained the same in observing (4.0). Inanna's scores decreased by 0.1 point in non-judging and non-reactivity and 0.4 points in describing. The combined average for the five factors was 2.8 prior to training and 2.7 after training.

Rhiannon

Rhiannon's initial ECR score was low for attachment-related anxiety (1.6) and midrange for attachment-related avoidance (3.4) (see Figure 2). She could be expected to employ security-based strategies of affect regulation (Mikulincer et al., 2003). After attending three of eight training sessions, Rhiannon's scores increased in both avoidance (0.6) and anxiety (1.7). This barely situated her in the quadrant characterized by security-based strategies. It is important to note that during this time Rhiannon was dealing with finding an apartment and the transition out of the supportive housing residence and program into an independent housing arrangement.

Rhiannon's scores ranged from a low in actaware (1.6) to a high in observing (3.8). After training, her low score was observing (2.6) and the high scores were for describe (3.5) and non-judging (3.5). Her greatest gains were in describe (1.3) and actaware (1.8). Her score for observing decreased considerably (-1.1) from pre- to post-training. The combined average for the five factors was 2.7 prior to training and 3.2 after training.

Kalliope

Kalliope's initial ECR score was low for attachment-related anxiety (4.3) and moderate for attachment-related avoidance (2.8) (see Figure 2); she was pregnant at this time. With this combination she is on just over the border into what Bartholomew and Horowitz (1991) describe as "preoccupied" (p. 227). She could be expected to employ some secondary security-based strategies of affect regulation. This combination is characterized by a negative view of self and a positive view of others, a high level of

dependence on others, and over-investment in relationships that are not necessarily in their best interest to maintain. This is equivalent to Hazan and Shaver's (1987) anxious/ambivalent category of adult attachment. Kalliope attended the initial mindfulness training session, one of eight. Towards the end of this time period she gave birth; she returned to the parenting group two times but did not make it through the whole meeting, thus missing the mindfulness session. Her post-training scores show both reduced anxiety (3.5) and avoidance (2.6), showing a decrease of 0.2 and 0.8, respectively.

Kalliope's scores ranged from a low in actaware (3.0) and non-reacting (3.0) to a high in describing (3.8). After training, her low score was actaware (2.1) and the high score was describing (4.3). More of Kalliope's scores decreased than increased. The greatest decrease was in non-judging (-2.0), followed by actaware (-0.9) and non-reacting (-0.7). Scores increased 0.5 points in observing and describing factors. The combined average for the five factors was 3.5 prior to training and 3.0 after training.

Phoebe

Phoebe attended the initial mindfulness training session, one of eight. She had difficulty attending the parenting group and so was not able to participate in the mindfulness training. She would stop by and touch base but consistently did not stay for the meal or parenting group. Phoebe's initial ECR score was high for attachment-related anxiety (5.0) and moderate for attachment-related avoidance (3.5) (see Figure 2). With this combination she falls into the "preoccupied" group (Bartholomew & Horowitz, 1991, p. 227) characterized by a negative view of self and a positive view of others, a high level

of dependence on others, and over-investment in relationships that are not necessarily in their best interest to maintain. Her average score for the five facets was 2.9.

Summary

The Listening Guide method enabled the listener and others to connect with the inner world of feelings and thoughts of the courageous women through their own voices. Listening and re-listening to these “women in women’s terms” (Gilligan, 1995, p. 120) provides a multi-layered topographic map of the intersections and interdependencies of first-person voices with the contrapuntal voices of relationship, attachment, and mindfulness in a familial and cultural context. In Raider-Roth’s (2005) words, this process elicited,

the complexity embedded within a text in an effort not to reduce the tensions to discrete categories but to raise up the beauty of the human psyche and assist the researcher in navigating the bumpy road terrain of relational life. (p. 182)

Indeed, the ways in which these women navigated and negotiated their inner lives and relationships with their children are intertwined with mindfulness. It appears that where there are secure-attachment-related strategies of affect regulation and deep parent-child relationships, there is mindfulness.

The FFMQ and ECR survey results were mixed. There was little change between pre- and post-survey results. For the FFMQ the greatest gains for the group occurred in the actaware facet. The ECR results were generally consistent with interview data. The two participants in the secure quadrant of the Bartholomew and Horowitz (1991) and Brennan et al. (1998) model (see Figure 2) remained in the secure quadrant despite major stressors including for Aurora the loss of her father, and for Rhiannon her move into

independent housing. Although Inanna stayed in the fearful-avoidant quadrant, her anxiety score decreased greatly from pre- to post-training. Kalliope moved slightly from the preoccupied quadrant to the secure quadrant after the birth of her second child.

CHAPTER 5. DISCUSSION, CONCLUSIONS AND IMPLICATIONS

Background

This research project involved interviewing and surveying five mothers living in transitional housing before and after eight potential mindfulness training sessions embedded in a weekly parenting group for the purpose of exploring and describing the experience of mindfulness-based practice for mothers living in transitional housing and the nature of their relationships with their children. The participants ranged in age from 23-61 years of age. Two identified as African American, two as Native American and White, and one as White. Family configurations included single mothers with very young children living with them, mothers whose children were living in foster care, as well as mothers of adult children and grandchildren: 20 children total. All five participants reported having been victims of domestic violence. The number of instances of homelessness ranged from once to three or four times, for periods of one to 36 months. Interviews were interpreted using the Listening Guide, a qualitative, feminist, relational, voice-centered method of analysis rather than a hierarchical, positivistic, patriarchal method. It originated in the analysis used by Gilligan (1982) in her seminal work, *In a Different Voice* (Brown & Gilligan, 1991). The FFMQ (Baer et al., 2006) and ECR (Brennan et al., 1998) were used to measure mindfulness, and attachment avoidance and anxiety.

Discussion and Conclusions

This section is organized around the research questions:

- Perceived affects of mindfulness, attachment and relationship
- The lived experience of mothers practicing mindfulness
- Contrapuntal voices: Attachment, mindfulness and the nature of the parent-child relationship

Perceived Effects of Mindfulness, Attachment, and Relationship

Two self-report measures were used - the FFMQ (Baer et al., 2006) and the ECR (Brennan et al., 1998) based on research showing substantial correlations between attachment security and mindfulness (Mikulincer et al., 2003). Brown et al.'s (2007) comprehensive review article shows research to date, suggesting that mindfulness has salutary effects on mental health and psychological well-being, physical health, behavioral regulation, and relationship satisfaction and constructive social interaction. It lowers stress reactivity and increase peace of mind in response to overwhelming situations. Attachment security is related to these same variables (Mikulincer et al., 2003). Mikulincer et al. (2003) do point out that it is not yet clear which came first: attachment security/insecurity, mindfulness, or some other factor. In most of the pertinent studies, attachment security is characterized by low scores on the avoidance and anxiety dimensions of insecurity.

The FFMQ (Baer et al., 2006) is a self-report measure which uses a 5-point Likert scale: (1) never or rarely true, (2) rarely true, (3) sometimes true, (4) often true, and (5) very often true. The FFMQ measures (a) observing/noticing/ attending to

sensations/perceptions/feelings, (b) describing/labeling with words, (c) acting with awareness/concentration/non-distraction versus automatic pilot, (d) non-judging of experience, and (e) non-reactivity to inner experience.

The ECR (Brennan et al., 1998) measures two major dimensions of attachment security avoidance and anxiety on a scale of one to seven: one being low, four neutral, and seven high for each dimension.

Pre- and post-results were collected for four of five participants; post-training results were not returned for one participant. The results were mixed, showing little change between pre- and post-survey results, although the scores were generally consistent with interview data. Two participants (Aurora and Rhiannon) scored in the low anxiety and low to mid range for avoidance on the pre- and post-surveys.

Aurora. From pre- to post-, Aurora's ECR scores (Brennan et al., 1998) increased in both dimensions: avoidance (2.1-2.6) and anxiety (1.1-1.6), situating her in the quadrant characterized by security-based strategies. It is important to note that Aurora's father was very ill during this time and passed away within weeks of her completing the post-training survey; now she has no living parent. This increase could have accounted for the grieving process. In terms of avoidance, that might mean suppression of painful thoughts, attempts to handle stress alone, or distancing oneself from distress. The increase in anxiety might relate to the anticipation of losing connection with a loved one. Aurora is employing security-based strategies, attending the parenting group—even expressing that she did not want to be there but knew it would be better for her to be around people who cared for her. She is also pursuing grief counseling.

Aurora's interviews clearly showed security-based attachment strategies including resilience and resources for coping with stress, and often employ her own actions to reduce distress and remove obstacles, acknowledgment and display of distress, expressing feelings, revision of one's knowledge base following receipt of new evidence, and more empathic toward people in need (Mikulincer et al., 2003).

On the FFMQ, Aurora's average scores increased from 4.0 to 4.3. Scores for each facet included observe (4.0-4.5), describe (4.0-4.0), actaware (3.4-4.4), non-judging (4.5-4.1), and non-reactivity (4.0-4.4). These scores are consistent with Mikulincer et al.'s (2003) findings that lower avoidance and anxiety are usually accompanied by higher degrees of mindfulness. Aurora's greatest increase was in actaware (1.0), which is exemplified in her story about letting go of her preoccupation with housework and spending quality time with her grandchildren (being in relationship with them) over spring break (Baer et al., 2006).

Here the secure strategy of revision of one's knowledge base following receipt of new evidence and the mechanism of mindfulness (changes in personal perspective of self) share commonalities and are reflected in Aurora's repeated exclamations, "I've changed" and "I finally got it," with regard to her relationship with her daughter. Likewise, the notions of empathy as evidence of secure-strategies and compassion as a mechanism of mindfulness in her expressions of love for her daughter and grandchildren when she said, "Now I think about instead of reacting right away ... you just gotta do this ... especially with my grandchildren you have to do this in a loving way" (Hölzel, Lazar et al., 2011; Mikulincer et al., 2003).

In our second interview, Aurora told a story that brings all of these notions together:

I think I'm trying to be a better listener instead of you know just jumping in there. listening and just try you know sometimes to be in their shoes. Not to pity someone – and I think I did a lot of that, “oh poor you” ... that's the mother and me and the daycare provider I want to fix it for you ... This one lady I was walking to catch a bus and she came up to me she got real close to me in my space ... she says “I'm homeless could you give me some money I need to get some food.”

And I said no. And then I was going to tell her go up to the soup kitchen they have free food but instead she said, “Thank you very much ... [in an indignant loud voice] and God bless you.”

I thought, “wow,” and I you know and I didn't say anything just walked on. And as I walked away she had gum in her mouth and I was thinking to myself, “Hmm, you can buy gum but you can't buy the food” ... Now that wasn't being mindful. [laughing] I guess I was really ... I just felt so bad that she ... got right in my face, and I just had, you know, instead of letting it bother me, I had to think of something funny so I would laugh about it. (personal communication)

Security-based strategies and mindfulness seem to support Aurora's relationships with her daughter and grandchildren. The I-poems (see I-poem about her wanting to take back something she regretted saying to her daughter) and contrapuntal voices (see story about spring break with her grandchildren) provide strong examples (Mikulincer et al., 2003).

Rhiannon. From pre- to post-, Rhiannon's ECR (Brennan et al., 1998) scores increased in both dimensions: avoidance (2.1-2.6) and anxiety (1.1-1.6), situating her in the quadrant characterized by security-based strategies. Aurora moved out of transitional housing into her own apartment during mindfulness training, and was concerned about the location of her new place in terms of security and limited transportation, which may

account for the increase in anxiety. And yet her interviews showed evidence of security-based strategies: resilience, broadening of perspectives, capacities and skills, and active attempts to remove the source of distress, manage the problematic situation, and restore emotional equanimity without creating negative socio-emotional side effects (Mikulincer et al., 2003).

Distancing oneself from distress is associated with higher levels of avoidance (Mikulincer et al., 2003). In Rhiannon's second interview she tells the story of distancing herself from her 15-year-old daughter who is in foster care and the strategy she employed to down-regulate her emotional distress.

I stopped talking to my daughter because, you know, I just feel like I'm not a good mother since I'm not raising her and able to be there for her when she, you know, like really needs me. But with the classes I am relaxed and I'm able to talk to her on the phone about school and what's going on in her life ... when she does mess up, I don't like jump off the handle ... I talk to her – tell her, "I'm disappointed and I'm not angry or mad at you. I'm just very disappointed." Well our relationship is getting more stronger ... She looks forward, you know, to hearing from me. (Rhiannon, personal communication)

Rhiannon's scores for each facet of the FFMQ are: observe (3.8-2.6), describe (2.3-3.5), actaware (1.6-3.4), non-judging (2.6-3.5), and non-reactivity (3.0-3.0). Her highest gains were in describe (1.3) and actaware (1.8), which are also consistent with this story. The increase in these two scores are consistent with her experience of quitting smoking during the training; she was more aware of and describes her reasons for grabbing a cigarette (i.e., nervousness, disappointment, celebration) until she no longer needed them (Baer et al., 2006).

Inanna. From pre- to post-, Inanna's ECR (Brennan et al., 1998) scores increased in avoidance (5.0-5.7) and decreased in anxiety (5.9-4.0), situating her in the quadrant characterized by fearful-avoidance and the use of secondary attachment strategies. The decrease in reported anxiety is consistent with Inanna's reports that meditation has helped her to reduce stress, keep calm, and not overreact to situations with her children and in general.

Mikulincer et al. (2003) report that attachment anxiety was significantly lower scores on three mindfulness facets: non-reactivity to inner experience, acting with awareness, and non-judging of experience. More avoidant participants were less mindful in general. Inanna's FFMQ scores are somewhat consistent with their findings. Her scores for each facet were: observe (4.0-4.0), describe (2.9-2.5), actaware (1.9-2.0), non-judging (2.4-2.3), and non-reactivity (3.0-2.9)—with lower actaware and non-judging scores related to anxiety.

Higher avoidance and anxiety would be consistent with Inanna's life story; she left home at 14, had her first child at 17, has been homeless three to four times, and for 18 months prior to the study lived in transitional supportive housing. She is a survivor of severe domestic violence. Recently a man broke into her apartment in the middle of the night while she and her four children were there and the local police did not treat the situation with the appropriate sensitivity, according to Inanna and program staff. These events might cause her to suppress painful thoughts and maximize cognitive, emotional, and physical distance from others (Mikulincer et al., 2003); Inanna does at times distance herself from the other residents and the oftentimes chaotic environment. With regard to

coping with emotions, Inanna did demonstrate some discomfort and conflict as depicted in her I-poem about crying—that she is uneasy and frustrated with her children’s crying “meltdowns,” her reference to that “grand cry” that makes her feel better, and the need she feels to hide her tears from her children, blaming them on yawns or onions when she cannot hold it in anymore.

Despite all this, Inanna’s interviews show clear evidence of security-based attachment strategies with her children. Despite her history, Inanna is a loving mother. She is resilient. She is gaining more affect regulation skills as evidenced by her statements about calming herself, not overreacting, and her recognition of the surprise in her son’s face when he expected her to overreact and she didn’t (Baer et al., 2006; Mikulincer et al., 2003).

She is learning new coping skills through practicing mindfulness—modeling and teaching it to her children: mindful eating (Bays, 2009) and taking a moment to breathe and self-soothe. Inanna’s highest score of the FFMQ was in the observe facet which includes noticing, attending to sensations, perceptions, and feelings (Baer et al., 2006). The observations she shared during her second interview are consistent with reflexive observations of her progress in the areas of non-judging and non-reactivity when she said,

That really helped as far as knowing how to clear my mind ... without any judgment ... like I’m not being lazy. I’m not, not being a mother by ... clearing my mind and sitting here. I didn’t judge. I don’t judge myself anymore ... when I know ... oh I’m at the boiling point ...AHHHHH ... bring it back down ... I can do that now. (Inanna, personal communication)

Kalliope. From pre- to post-, Kalliope’s ECR (Brennan et al., 1998) scores decreased in avoidance (2.8-2.6) and decreased in anxiety (4.3-3.5). From pre- to post-

training, Kalliope's scores moved her from slightly over the line into the preoccupied quadrant to slightly over the line in the other direction to the quadrant characterized by security. She only attended one training session and was pregnant at that time. She completed the post-training questionnaires about a month after giving birth. Caring for a new baby, respite care for her two-year-old with family, and the plan for the baby's father to move in with her might account for this slight decrease in avoidance and anxiety. Inconsistent with these scores are the number of hyperactivating secondary attachment strategies that were evident in her interviews including perception of oneself as helpless and unable to regulate emotions, heightened rumination, worry, and anxiety (Mikulincer et al., 2003). Kalliope used the word *anxiety* several times during our second interview which would not be uncommon for a mother, in recovery for under a year, caring for a new baby. Even though family is caring for Kalliope's toddler, being separated from him is worrisome for her. Her toddler stayed with family when she was in treatment and she described the separation as guilt inducing and traumatic; some of her family were very angry at her for relapsing and tried to keep her son from her by not bringing him for visitation.

Kalliope's scores for each FFMQ facet (Baer et al., 2006) were: observe (3.5-4.0), describe (3.8-4.3), actaware (3.0-2.1), non-judging (4.3-2.3), and non-reactivity (3.0-2.3). The greatest decreases in Kalliope's FFMQ scores were in actaware (-0.9), non-judging (-2.0), and non-reactivity (-0.7). As noted earlier, lower scores on the last three facets are consistent with higher anxiety (Mikulincer et al., 2003), even though her anxiety score decreased during the time the training took place. Kalliope's highest scores were in

observe and describe, which is consistent with her stories about being in tune with her body after experiencing pregnancy and childbirth. In addition, it may be a reflection of the insightfulness she demonstrated during our second interview in talking about her recovery, the consequences of separation from her child, and the change in her perspective:

When I first went to treatment I wanted to say – I’m the best mom nobody can do any better than me ... then it took me a little bit to be a little more humble and ... okay, well, maybe those days that I was out doing this maybe I wasn’t the best mom ... I’m doing the right things now and that’s kind of making up for the bad things that I did do. I know that, like, it’s never going to be erased for good ... but I can make different choices to make things better. (Kalliope, personal communication)

Kalliope was only able to attend one training session. While she was able to implement a few of the experiences, there is little evidence that mindfulness training had any effect on the quality of her relationships with her children.

Phoebe. Phoebe attended two of the training sessions and completed the pre- and post-interviews and the pre-training survey. She did not complete the post-training session survey so there are no comparisons for the ECR (Brennan et al., 1998) and FFMQ (Baer et al., 2006). The initial scores are reported to provide a sense of her avoidance and anxiety and mindfulness scores. Her ECR scores were: avoidance (3.5) and anxiety (5.0), situating her in the quadrant characterized by preoccupation; this would indicate the use of secondary attachment strategies. Some of the strategies she demonstrates included the perception of herself as helpless and incompetent at affect regulation (consistent with her feelings of being overwhelmed) and alertness for threats, separations, and a generalized sense of betrayal (consistent with the children’s father’s lack of involvement). She said,

“I have a lot of resentments against people [their dad] for not being around” (Phoebe, personal communication). In addition, the father’s brother died unexpectedly within the last year. It also appears that she has ready access to painful memories even when there is no evident threat (Mikulincer et al., 2003).

Phoebe is living a very stressful life. She is a 23-year-old single mother of very active two-year-old twin boys. She is trying to learn the ropes of taking care of her children: setting and sticking to a routine, managing tantrums, rambunctious behavior, and frantic bedtimes—times two. She described herself as overwhelmed and worries about her children’s futures. When asked how she would describe herself as a parent, she responded,

I’m trying to get a routine in place and, you know, like their manners. I think it’s really important to teach them young. I’m not sure. I’m new to this. I like trying to learn as much as I can. (Phoebe, personal communication)

Until recently she had little support. Her grandmother has helped when possible and she spoke about her mother beginning to help her with the children.

Phoebe had difficulty coming to parenting meetings for a number of reasons. She expressed difficulty in attending meals, “People eating loud is really one of my really big huge pet peeves it’s like it makes my life unmanageable.” She often had to leave early because of feeling anxious, overwhelmed or in response to phone calls, which for someone who appears to be lonely and isolated is understandable. Phoebe also expressed that the parenting group time was one of the only times she had to herself during the week—childcare is provided during that time whether or not mothers attend the group.

Phoebe's FFMQ scores for each facet were: observe (3.1), describe (3.5), actaware (2.9), non-judging (1.9), and non-reactivity (3.3). Due to her high levels of stress, feelings of being overwhelmed, her resentment, and self-judgment, she has few reserves left for being in relationship with her children at more than the level of responsive physical care. Phoebe's strength lies in her perseverance and desire to learn how to be a mother. She spoke about mindfulness practice as a way to cope with her children's behavior—being able to pause and then react calmly to their behaviors. Perhaps this will start to create the space for a deeper relationship.

The Lived Experience of Mothers Practicing Mindfulness

The Listening Guide method provides the most accurate sense of participants' lived experience of practicing mindfulness. The patterns that emerged are summarized here. All of the mothers reported deriving some benefit from attending mindfulness training—some small, some extensive.

The most often-mentioned experience was that mindfulness practices had a calming, relaxing, and/or stress-relieving effect on the mothers, which included an awareness of and relaxing the places they held stress in their bodies. Many also observed that when they were calm, their children tended to be calm as well. Aurora spoke about experiencing the feeling of “growing” as she was able to let go of stress and said, “I've changed ... how I deal with myself and then how I deal with [my children] is different” (personal communication).

The most talked-about experiences were related to reactivity and judgment. The practice of taking a breath or engaging in internal dialog before reacting to children and then making the choice to be mindful was a common story. Phoebe said,

I did, you know, stop and then think about like how I was going to react to a situation and then change that. You know, I was able to stop and tell myself, “Hey there’s a better way to deal with this you know” due to what I learned. And just the breathing; the breathing help me a lot. (personal communication)

Moms described instances of laughing at simple things that went wrong as opposed to getting angry, like when Aurora’s friend didn’t put the top on the blender and pureed pumpkin covered everything in her kitchen. Inanna recognized the surprise in her son’s face when he realized that she wasn’t going to, in her words, “overreact” to his not making it to the toilet in time. Phoebe didn’t “spaz out” when her twins emptied the contents of the refrigerator onto the kitchen floor. She was grateful that they were not hurt.

Inanna and Rhiannon talked about how they at times felt like “bad mothers” and through mindfulness practice were able to judge themselves less harshly, if at all. Aurora and Rhiannon spoke about not judging others on the bus or at the soup kitchen the way they had in the past, describing how they didn’t know what was going on in other people’s lives that might account for the way they behave.

The majority of the mothers reported being more aware of what was going on around them. Rhiannon said,

It helped me to learn how to take time out for myself ... be mindful of things that are going on because sometimes it’s like I’m in a daze. I’m walking around and I’m like a robot, you know, doing what I normally do, and not paying attention to you know little things. (personal communication)

Another common experience was that mothers took time for themselves, not only at the mindfulness sessions, but at home as well. Rhiannon said:

I try to keep the practice in my daily life every day – all day ... but mostly when I'm having my coffee ... I sit back and I relax and breathe. And say, "This is my time ... be with myself and just breathe. (personal communication)

Inanna and Aurora also described making time for taking time to breathe or meditate.

Probably most important to the parent-child relationship was the mothers' experiences of being present with their children/grandchildren. Inanna recounted, "I just ... focus on what's going on right now and not what's coming up or what I have to do like wash the dishes like sweep the floor." For Phoebe it was cleaning up a mess with her twins. Rhiannon said, "I am relaxed and I'm able to talk to her on the phone about school and what's going on in her life." Kalliope described how she tries to, "be here in the moment, right now, with her children. And Aurora was present with her daughter during a conflict, "I would've waited before I said I was sorry, but this time I said it right away instead of waiting."

Perhaps Aurora and Inanna captured the essence of the experience of mindfulness: "You know, it was like a light clicked right away" ... "I think that it's in my head [now]" ... "I'm in a different mind-frame."

Contrapuntal Voices: Attachment, Mindfulness, and the Nature of the Parent-Child Relationship

The voices of relationship, attachment-related strategies, and mindfulness were investigated and described in Chapter 4. The Listening Guide method was itself a practice

of mindfulness—allowing the listener to experience the physicality of voice—its sounds, resonances and vibrations and the way it connects the mind and body (Brown & Gilligan, 1993).

One’s voice changes in resonance depending on the relational acoustics: whether one is heard or not heard, how one is responded to (by oneself and by other people). Since each voice is different and every relationship is, by definition, a fluid, ever-changing and unique experience, we have created a ‘listener’s guide’ – a pathway into relationship rather than a fixed framework for interpretation. (Brown & Gilligan, 1993, pp. 14-15)

These three voices spoke together more harmoniously than not. My interpretation: The voice of mindfulness often spoke as conditions arose, rather than the voice of autopilot, and brought bare attention to those conditions. It created a space, maybe just the space of a breath, to make an intentional choice about how to “be” in that moment, and then again in the next. The voice of mindfulness acted with awareness, enacting security-based strategies, prompting the voice of attachment to speak of regulation, low anxiety and avoidance, safe haven and secure base, conditions that would prompt the voice of mindfulness to speak and so on. It’s like Nelson’s (2012) “Autobiography in Five Short Chapters”:

Chapter 1
 I walk down the street.
 There is a deep hole in the sidewalk.
 I fall in.
 I am lost ... I am helpless.
 It takes forever to find a way out.

Chapter 2
 I walk down the same street.
 There is a deep hole in the sidewalk.
 I pretend I don’t see it.
 I fall in again.

I can't believe I am in the same place.
 But it isn't my fault.
 It still takes a long time to get out.

Chapter 3

I walk down the same street.
 There is a deep hole in the sidewalk.
 I see it is there.
 I still fall in ... it's a habit.
 My eyes are open.
 I know where I am.
 It is my fault.
 I get out immediately.

Chapter 4

I walk down the same street
 There is a deep hole in the sidewalk.
 I walk around it.

Chapter 5

I walk down another street. (p. xii)

The voices of mindfulness and attachment both enable changes in the positive perspective of self and increase empathy and compassion for self and others. These either are, or are inextricable from, the voice of relationship with one's self, one's children, and others.

Implications and Future Research

The voices and accompanying survey data support the relationships between secure attachment and mindfulness. Women living in transitional housing can benefit from the apparent synchronicity between mindfulness practice and attachment in deepening and transforming their relationships with their children. As Goleman (1996) writes:

The range of what we think and do
 is limited by what we fail to notice.
 And because we fail to notice
 that we fail to notice
 there is little we can do
 to change
 until we notice
 how failing to notice
 shapes our thoughts and deeds. (p. 24)

Working with this group was a unique experience. Foremost, the experience of trauma and toxic stress takes its toll, leaving women entering transitional housing with few resources for activities beyond the bare necessities of settling their families in. This was the reason behind starting with short 20-minute training sessions and then weaving the ideas throughout the parenting group. Aurora describes the complexity of mindfulness training in this setting very well:

I know they're very stressful ... and I think it's harder. I remember when I first came here I didn't want to come to things here ... I was kind of like forced to. And I think because you just have so much on your mind and it's hard to just ... sit listen to something new – when it's like all you can think about is, [sigh] ... all the losses you've had ... I don't think you concentrate as much when you got so much in your mind. I think it's helpful to try, because, you know what, everybody's at a different phase. So there might've been more, other people in the group that really – it did them good and then maybe others not. But I think if you keep on doing it ... everybody'll catch up. (personal communication)

The consensus is that these mothers found mindfulness practice beneficial because of the effects like relaxation, less stress, moment-to moment positive presence with their children, the room to make different choices in the way they react to their children and others, and its salutary effects on decreasing harsh self-judgment and judgment of others. The mothers have requested that the mindfulness practice sessions continue and more mothers are choosing to participate.

There are some barriers to consider in terms of making mindfulness training available to a wider population of transitional housing residents. Lack of financial resources could inhibit access. In this case the researcher chose to practice with the residents so there was no cost to participants. There are a handful of practice groups in the area. Barriers to accessing these groups include transportation and residents' fears of not being accepted. Accurate or not, these women face prejudice and rejection on a daily basis from the surrounding neighborhood, local businesses, the public schools, and cab drivers, to name a few. Most of the practice groups are Buddhist, which raised concerns about conflicts with Christianity and Native belief systems.

With regard to future research, as stated at the beginning of this chapter, the efficacy of mindfulness has been demonstrated in mental health, psychological well-being, physical health, behavioral regulation, and relationship satisfaction and meaningful interpersonal interaction. It lowers stress reactivity and increases peace of mind in response to overwhelming situations. Attachment security is related to these same variables (Mikulincer et al., 2003). These salutary effects seem to have been beneficial to this small group of mothers who are parenting in the uncertainty and risk-rich environment of transitional housing. The typical transitory and complicated nature of living in this type of housing, especially for new residents who are often prone to secondary attachment strategies, complicates regular attendance at training and data collection. Nonetheless, the voices of mindfulness, secure attachment, and the mother-child relationship speak together to present opportunities for further research for the benefit of this vulnerable and critically important population. Also of interest is the

potential of involving the children in age-appropriate mindfulness practice to explore how this might affect attachment and parent-child relationships, as well as investigating the effects of mindfulness on transitional housing staff and how that might impact relationships within the transitional housing community and beyond.

And so we return to Schore (2012), who contends that for the last two decades “American culture has been providing a growth inhibiting EEA for mother-infant attachment bond formation in the first two years of life” (p. 364). Long-term the stakes are even higher as the altered EEA has “less than optimal epigenetic influences on the experience-dependent, maturation of the early developing emotion-processing right brain” and “a substantial increase in the number of individuals with a neurobiological predisposition for psychiatric disorders” (Schore, 2012, p. 364). Attention to attachment, mindfulness, brain development and relationships play an important part in providing a growth enhancing EEA.

As Ollhoff and Walcheski (2002) write about complex systems, “In Einstein’s world, when we get to the smallest bits, we find that *there are no things*, only interactions”—relationships (p. 52). We are all related. The relationship between attachment and mindfulness is vital to human experience. The more attentive we are to attachment and mindfulness, the greater the well-being of all the smallest bits.

References

- Ainsworth, M. D., & Bell, S. M. (1970). Attachment, exploration, and separation: Illustrated by the behavior of one-year-olds in a strange situation. *Child Development, 41*(1), 49-67. Retrieved from <http://www.jstor.org/stable/1127388>
- Ainsworth, M. D., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment*. Hillsdale, NJ: Lawrence Erlbaum.
- Ainsworth, M. D., & Bowlby, J. (1965). *Child care and the growth of love*. New York, NY: Penguin Books.
- Ainsworth, M. D., & Bowlby, J. (1991). An ethological approach to personality development. *The American Psychologist, 46*(4), 333.
- Allman, J. M., Hakeem, A., Erwin, J. M., Nimchinsky, E., & Hof, P. (2001). The anterior cingulate cortex: The evolution of an interface between emotion and cognition. *Annals of the New York Academy of Sciences, 935*, 107-117. doi:10.1111/j.1749-6632.2001.tb03476.x
- Anālayo, S. (2003). *Satipatthana: The direct path to realization*. Cambridge, England: Windhorse.
- Austin, M. P., & Leader, L. (2000). Maternal stress and obstetric and infant outcomes: Epidemiological findings and neuroendocrine mechanisms. *The Australian and New Zealand Journal of Obstetrics and Gynaecology, 40*(3), 331-337. doi:10.1111/j.1479-828X.2000.tb03344.x
- Awiakta, M. (1983). Motherroot. In A. Walker, *In search of our mothers' gardens: Womanist prose* (p. 230) New York: Harvest/Harcourt Brace Jovanovich.
- Baer, R., Carmody, J., & Hunsinger, M. (2012). Weekly change in mindfulness and perceived stress in a mindfulness-based stress reduction program. *Journal of Clinical Psychology, 68*(7), 755-765. doi:10.1002/jclp.21865
- Baer, R. A., Smith, G. T., & Allen, K. B. (2004). Assessment of mindfulness by self-report: The Kentucky Inventory of Mindfulness Skills. *Assessment, 11*, 191-206.
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*(1), 27-45. doi:10.1177/1073191105283504

- Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., et al. (2008). Construct validity of the five facet mindfulness questionnaire in meditating and nonmeditating samples. *Assessment, 15*(3), 329-342. doi:10.1177/1073191107313003
- Balan, B. N. (2008). Multiple voices and methods: Listening to women who are in workplace transition. *International Journal of Qualitative Methods, 4*(4), 63-86. Retrieved from http://www.ualberta.ca/~iiqm/backissues/4_4/pdf/balan.pdf
- Bartels, A., & Zeki, S. (2000). The neural basis of romantic love. *Neuroreport, 11*(17), 3829-3834. doi:10.1097/00001756-200011270-00046
- Bartels, A., & Zeki, S. (2004). The neural correlates of maternal and romantic love. *Neuroimage, 21*(3), 1155-1166. doi:10.1016/j.neuroimage.2003.11.003
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61*(2), 226-244. doi:10.1037/0022-3514.61.2.226
- Bassuk, E. L., Weinreb, L. F., Buckner, J. C., Browne, A., Salomon, A., & Bassuk, S. S. (1996). The characteristics and needs of sheltered homeless and low-income housed mothers. *JAMA, 276*(8), 640-646. doi:10.1001/jama.1996.03540080062031
- Bays, J. C. (2009). *Mindful eating: A guide to rediscovering a healthy and joyful relationship with food*. Boston, MA: Shambhala.
- Bazhenova, O. V., Plonskaia, O., & Porges, S. W. (2001). Vagal reactivity and affective adjustment in infants during interaction challenges. *Child Development, 72*(5), 1314-1326. doi:10.1111/1467-8624.00350
- Beddoe, A., & Murphy, S. (2004). Does mindfulness decrease stress and foster empathy among nursing students? *The Journal of Nursing Education, 43*(7), 305-312.
- Bedics, J., Atkins, D., Comtois, K., & Linehan, M. (2012). Treatment differences in the therapeutic relationship and introject during a 2-year randomized controlled trial of dialectical behavior therapy versus nonbehavioral psychotherapy experts for borderline personality disorder. *Journal of Consulting and Clinical Psychology, 80*(1), 66-77. doi:10.1037/a0026113
- Bell, S. M., & Ainsworth, M. D. S. (1972). Infant crying and maternal responsiveness. *Child Development, 43*, 1171-1190. Retrieved from <http://www.jstor.org/stable/1127506>

- Benn, R., Akiva, T., Arel, S., & Roeser, R. (2012). Mindfulness training effects for parents and educators of children with special needs. *Developmental Psychology*. doi:10.1037/a0027537
- Benoit, D. (2004). Infant-parent attachment: Definition, types, antecedents, measurement and outcome. *Paediatric Child Health*, 9(8), 541-545.
- Bernard, K., & Dozier, M. (2010). Examining infants' cortisol responses to laboratory tasks among children varying in attachment disorganization: Stress reactivity or return to baseline? *Developmental Psychology*, 46(6), 1771-1778. doi:10.1037/a0020660
- Bernhardt, B. C., & Singer, T. (2012). The neural basis of empathy *Annual Review of Neuroscience*, 35, 1-23. doi:10.1146/annurev-neuro-062111-150536
- Biederman, D. J., Nichols, T. R., & Durham, D. D. (2010). Maternal navigational strategies: Examining mother-daughter dyads in adolescent families of color. *Journal of Family Nursing*, 16(4), 394-421. doi:10.1177/1074840710385001
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., . . . Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, 11(3), 230-241. doi:10.1093/clipsy.bph077
- Bodhi, B. (2000). *A comprehensive manual of Abhidhamma*. Seattle, WA: BPS Pariyatti Editions.
- Bögels, S., Hoogstad, B., van Dun, L., de Schutter, S., & Restifo, K. (2008). Mindfulness training for adolescents with externalizing disorders and their parents. *Behavioural and Cognitive Psychotherapy*, 36(2), 193-209. doi:http://dx.doi.org/10.1017/S1352465808004190
- Bohlmeijer, E., ten Klooster, P. M., Fledderus, M., Veehof, M., & Baer, R. (2011). Psychometric properties of the five facet mindfulness questionnaire in depressed adults and development of a short form. *Assessment*, 18(3), 308-320. doi:10.1177/1073191111408231
- Bornstein, M. H., & Suess, P. E. (2000). Child and mother cardiac vagal tone: Continuity, stability, and concordance across the first 5 years. *Developmental Psychology*, 36(1), 54-65. doi:10.1037/0012-1649.36.1.54
- Bourne, V. J., & Todd, B. K. (2004). When left means right: An explanation of the left cradling bias in terms of right hemisphere specializations. *Developmental Science*, 7(1), 19-24. doi:10.1111/j.1467-7687.2004.00318.x

- Bowen, S., Witkiewitz, K., Dillworth, T., Chawla, N., Simpson, T., Ostafin, B., . . . Marlatt, G. A. (2006). Mindfulness meditation and substance use in an incarcerated population. *Psychology of Addictive Behaviors, 20*(3), 343-347. doi:10.1037/0893-164X.20.3.343
- Bowlby, J. (1944). Forty-four juvenile thieves: Their character and home-life. *International Journal of Psychoanalysis, 25*, 19-52.
- Bowlby, J. (1952). *Maternal care and mental health* (2nd ed.). Geneva, Switzerland: World Health Organization.
- Bowlby, J. (1973). *Attachment and loss: Separation: Anxiety and anger* (Vol. 2). London, England: Hogarth Press.
- Bowlby, J. (1982). *Attachment and loss: Attachment*. New York, NY: Basic Books.
- Bowlby, J. (1988). *A secure base*. New York, NY: Basic Books.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York, NY: Guilford Press.
- Bretherton, I. (1992). The origins of attachment theory: John Bowlby and Mary Ainsworth. *Developmental Psychology, 28*(5), 759-775.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Boston, MA: Harvard University Press.
- Bronfenbrenner, U. (1990). Discovering what families do. In D. Blankenhorn et al. (Eds.), *Rebuilding the nest: A new commitment to American family* (pp. 27-38). Milwaukee, WI: Family Service America.
- Bronfenbrenner, U. (2005). *Making human beings human: Bioecological perspectives on human development*. London, England: Sage.
- Bronfenbrenner, U., & Ceci, S. J. (1994). Nature-nurture reconceptualized in developmental perspective: A bioecological model. *Psychological Review, 101*(4), 568-586. doi:10.1037/0033-295X.101.4.568
- Brothers, L. (1996). Brain mechanisms of social cognition. *Journal of Psychopharmacology*. doi:10.1177/026988119601000102

- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84(4), 822-848. doi:10.1037/0022-3514.84.4.822
- Brown, K. W., Ryan, R. M., & Creswell, J. D. (2007). Mindfulness: Theoretical foundations and evidence for its salutary effects. *Psychological Inquiry*, 18(4), 211-237. doi:10.1080/10478400701598298
- Brown, K. W., Weinstein, N., & Creswell, J. D. (2012). Trait mindfulness modulates neuroendocrine and affective responses to social evaluative threat. *Psychoneuroendocrinology*. doi:10.1016/j.psyneuen.2012.04.003
- Brown, L. M., & Gilligan, C. (1991). Listening for voice in narratives of relationship. *New Directions for Child and Adolescent Development*, 1991(54), 43-62. doi:0.1002/cd.23219915405
- Brown, L. M., & Gilligan, C. (1993). Meeting at the crossroads: Women's psychology and girls' development. *Feminism & Psychology*, 3(1), 11-35. doi:10.1177/0959353593031002
- Buber, M. (1958). *I and thou* (R. B. Smith, Trans.). New York, NY: Scribner's.
- Burg, J. M., Wolf, O. T., & Michalak, J. (2012). Mindfulness as self-regulated attention: Associations with heart rate variability. *Swiss Journal of Psychology/Schweizerische Zeitschrift Für Psychologie/Revue Suisse De Psychologie*, 71(3), 135-139. doi:http://dx.doi.org/10.1024/1421-0185/a000080
- Buss, C., Lord, C., Wadiwalla, M., Hellhammer, D. H., Lupien, S. J., Meaney, M. J., et al. (2007). Maternal care modulates the relationship between prenatal risk and hippocampal volume in women but not men. *The Journal of Neuroscience*, 27(10), 2592-2595. doi:10.1523/JNEUROSCI.3252-06.2007
- Carlson, L., Speca, M., Faris, P., & Patel, K. (2007). One year pre-post intervention follow-up of psychological, immune, endocrine and blood pressure outcomes of mindfulness-based stress reduction (MBSR) in breast and prostate cancer outpatients. *Brain, Behavior, and Immunity*, 21(8), 1038-1049. doi:10.1016/j.bbi.2007.04.002
- Carlsson, J., Lagercrantz, H., Olson, L., Printz, G., & Bartocci, M. (2008). Activation of the right fronto-temporal cortex during maternal facial recognition in young infants. *Acta Paediatrica*, 97(9), 1221-1225. doi:10.1111/j.1651-2227.2008.00886.x
- Carmody, J., & Baer, R. (2008). Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a

- mindfulness-based stress reduction program. *Journal of Behavioral Medicine*, 31(1), 23-33. doi:10.1007/s10865-007-9130-7
- Carmody, J., Baer, R. A., L B Lykins, E., & Olendzki, N. (2009). An empirical study of the mechanisms of mindfulness in a mindfulness-based stress reduction program. *Journal of Clinical Psychology*, 65(6), 613-626. doi:10.1002/jclp.20579
- Carr, L., Iacoboni, M., Dubeau, M., Mazziotta, J., & Lenzi, G. (2003). Neural mechanisms of empathy in humans: A relay from neural systems for imitation to limbic areas. *Proceedings of the National Academy of Sciences of the United States of America*, 100(9), 5497-5502. doi:10.1073/pnas.0935845100
- Carter, C. S., Braver, T. S., Barch, D. M., Botvinick, M. M., Noll, D., & Cohen, J. D. (1998). Anterior cingulate cortex, error detection, and the online monitoring of performance. *Science*, 280(5364), 747-749. doi:10.1126/science.280.5364.747
- Cassidy, J., & Shaver, P. R. (2008). *Handbook of attachment : Theory, research, and clinical applications*. New York, NY: Guilford Press. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=262497&site=ehost-live>
- Cassidy, J., Shaver, P. R., Mikulincer, M., & Lavy, S. (2009). Experimentally induced security influences responses to psychological pain. *Journal of Social and Clinical Psychology*, 28(4), 463-478. Retrieved from <http://search.proquest.com.libpdb.d.umn.edu:2048/docview/224859437?accountid=8111>
- Central Intelligence Agency. (2012). *The world factbook*. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/>
- Chadwick, P., Hember, M., Symes, J., Peters, E., Kuipers, E., & Dagnan, D. (2008). Responding mindfully to unpleasant thoughts and images: Reliability and validity of the Southampton mindfulness questionnaire (SMQ). *British Journal of Clinical Psychology*, 47(4), 451-455. doi:10.1348/014466508X314891
- Chiron, C., Jambaque, I., Nabbout, R., Lounes, R., Syrota, A., & Dulac, O. (1997). The right brain hemisphere is dominant in human infants. *Brain*, 120(6), 1057-1065. doi:10.1093/brain/120.6.1057
- Chodron, T. (1995). *Taming the monkey mind*. Retrieved from <http://buddhisma2z.com/content.php?id=274>
- Chrousos, G. P. (1998). Stressors, stress, and neuroendocrine integration of the adaptive response. The 1997 Hans Selye memorial lecture. *Annals of the New York Academy of Sciences*, 851, 311-335. doi:10.1111/j.1749-6632.1998.tb09006.x

- Cicchetti, D., & Tucker, D. (1994). Development and self-regulatory structures of the mind. *Development and Psychopathology*, 6(4), 533-549.
- Citlak, M. F., & Bingul, H. (2007). *Rumi and his Sufi path of love*. Somerset, NJ: Light.
- Cleary, T. (Trans.). (1998). *The sutra of Hui-neng: Grand master of Zen*. Boston, MA: Shambhala.
- Collins, W. A., Harris, M. L., & Susman, A. (1995). Parenting during middle childhood. In M. H. Bornstein (Ed.), *Handbook of parenting: Volume 1. Children and parenting* (pp. 65-89). Hillsdale, NJ: Lawrence Erlbaum.
- Connolly, D. (2000). *Homeless mothers*. Minneapolis, MN: University of Minnesota Press.
- Contreras, J. M., Kerns, K. A., Weimer, B. L., Gentzler, A. L., & Tomich, P. L. (2000). Emotion regulation as a mediator of associations between mother-child attachment and peer relationships in middle childhood. *Journal of Family Psychology*, 14(1), 111-124. doi:10.1037/0893-3200.14.1.111
- Cowan, C. P., Cowan, P. A., Heming, G., Garrett, E., Coysh, W. S., Curtis Boles, H., et al. (1985). Transitions to parenthood: His, hers, and theirs. *Journal of Family Issues*, 6(4), 451-481. doi:10.1177/019251385006004004
- Cozolino, L. (2006). *The neuroscience of human relationships: Attachment and the developing brain*. New York, NY: Norton.
- Dale, L. P., O'Hara, E. A., Schein, R., Inserra, L., Keen, J., Flores, M., et al. (2011). Measures of infant behavioral and physiological state regulation predict 54-month behavior problems. *Infant Mental Health Journal*, 32(4), 473-486. doi:10.1002/imhj.20306
- Damasio, A. R. (1994). *Descartes' error*. New York, NY: Grosset/Putnam.
- Damasio, A. R. (1996). The somatic marker hypothesis and the possible functions of the prefrontal cortex. *Philosophical Transactions - Royal Society of Biological Sciences*, 351(1346), 1413-1420. doi:10.1098/rstb.1996.0125
- Damasio, A. R. (1998). Emotion in the perspective of an integrated nervous system. *Brain Research Reviews*, 26(2-3), 83-86. doi:10.1016/S0165-0173(97)00064-7
- Damasio, A. R., & Van Hoesen, G. (1983). Emotional disturbances associated with focal lesions of the frontal lobe. In K. Heilman & P. Satz (Eds.), *The neuropsychology of human emotion* (pp. 85-110). New York, NY: Guilford Press.

- David, D., Gelberg, L., & Suchman, N. (2012). Implications of homelessness for parenting young children: A preliminary review from a developmental attachment perspective. *Infant Mental Health Journal, 33*(1), 1-9. doi:10.1002/imhj.20333
- Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S. F., . . . Sheridan, J. F. (July/August 2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine, 65*(4), 564-570. doi:10.1097/01.PSY.0000077505.67574.E3
- Davidson, R. J., & McEwen, B. S. (2012). Social influences on neuroplasticity: Stress and interventions to promote well-being. *Nature Neuroscience, 15*(5), 689-695. doi:10.1038/nn.3093
- Davidson, R. J., Putnam, K. M., & Larson, C. L. (2000). Dysfunction in the neural circuitry of emotion regulation—A possible prelude to violence. *Science, 289*(5479), 591. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=3441231&site=ehost-live>
- Dawe, S., & Harnett, P. (2007). Reducing potential for child abuse among methadone-maintained parents: Results from a randomized controlled trial. *Journal of Substance Abuse Treatment, 32*(4), 381-390. doi:10.1016/j.jsat.2006.10.003
- Decety, J. (2010). The neurodevelopment of empathy in humans. *Developmental Neuroscience, 32*(4), 257-267. doi:10.1159/000317771
- Dimidjian, S., & Goodman, S. (2009). Nonpharmacologic intervention and prevention strategies for depression during pregnancy and the postpartum. *Clinical Obstetrics and Gynecology, 52*(3), 498-515. doi:10.1097/GRF.0b013e3181b52da6
- Doucet, A., & Mauthner, N. S. (2008). What can be known and how? Narrated subjects and the listening guide. *Qualitative Research, 8*(3), 399-409. doi:10.1177/1468794106093636
- Dozier, M., Stovall, K. C., Albus, K. E., & Bates, B. (2001). Attachment for infants in foster care: The role of caregiver state of mind. *Child Development, 72*(5), 1467-1477. doi:10.1111/1467-8624.00360
- Dumas, J. (2005). Mindfulness-based parent training: Strategies to lessen the grip of automaticity in families with disruptive children. *Journal of Clinical Child and Adolescent Psychology, 34*(4), 779-791. doi:10.1207/s15374424jccp3404_20
- Duncan, L. G., & Bardacke, N. (2010). Mindfulness-based childbirth and parenting education: Promoting family mindfulness during the perinatal period. *Journal of Child & Family Studies, 19*(2), 190-202. doi:10.1007/s10826-009-9313-7

- Duncan, L. G., Coatsworth, J. D., & Greenberg, M. T. (2009). A model of mindful parenting: Implications for parent-child relationships and prevention research. *Clinical Child & Family Psychology Review, 12*(3), 255-270. doi:10.1007/s10567-009-0046-3
- Dunn, C., Hanieh, E., Roberts, R., & Powrie, R. (2012). Mindful pregnancy and childbirth: Effects of a mindfulness-based intervention on women's psychological distress and well-being in the perinatal period. *Archives of Women's Mental Health, 15*(2), 139-143. doi:10.1007/s00737-012-0264-4
- Egeland, B., & Sroufe, L. A. (1981). Attachment and early maltreatment. *Child Development, 52*(1), 44-52.
- Ein-Dor, T., Mikulincer, M., & Shaver, P. (2011). Attachment insecurities and the processing of threat-related information: Studying the schemas involved in insecure people's coping strategies. *Journal of Personality and Social Psychology, 101*(1), 78-93. doi:10.1037/a0022503
- Elicker, J., Englund, M., & Sroufe, L. A. (1992). Predicting peer competence and peer relationships in childhood from early parent-child relationships. In R. D. Parke & G. W. Ladd (Eds.), *Family-peer relationships: modes of linkages* (pp. 77-106). Hillsdale, NJ: Erlbaum.
- Epstein-Lubow, G., McBee, L., Darling, E., Armev, M., & Miller, I. W. (2011). A pilot investigation of mindfulness-based stress reduction for caregivers of frail elderly. *Mindfulness, 2*(2), 95-102.
- Erickson, M. E., Sroufe, L. A., & Egeland, B. (1985). The relationship between quality of attachment and behavior problems in a high risk sample. *Monographs of the Society for Research in Child Development, 50*(1/2), 147-166.
- Evans, G. W., Boxhill, L., & Pinkava, M. (2008). Poverty and maternal responsiveness: The role of maternal stress and social resources. *International Journal of Behavioral Development, 32*(3), 232-237. doi:10.1177/0165025408089272
- Feeney, J. A., & Noller, P. (1996). *Adult attachment*. Thousand Oaks, CA: Sage.
- Feldman, R., Greenbaum, C. W., & Yirmiya, N. (1999). Mother-infant affect synchrony as an antecedent of the emergence of self-control. *Developmental Psychology, 35*(5), 223-231.
- Ferraioli, S. J. S., & Harris, S. L. (2012). Comparative effects of mindfulness and skills-based parent training programs for parents of children with autism: Feasibility and preliminary outcome data. *Mindfulness, 1*-13. doi:10.1007/s12671-012-0099-0

- Ferrari, P., Gallese, V., Rizzolatti, G., & Fogassi, L. (2003). Mirror neurons responding to the observation of ingestive and communicative mouth actions in the monkey ventral premotor cortex. *European Journal of Neuroscience*, *17*(8), 1703-1714. doi:10.1046/j.1460-9568.2003.02601.x
- Field, T. (1985). Attachment and psychobiological attunement: Being on the same wavelength. In M. Reite & T. Field (Eds.), *The psychobiology of attachment and separation* (pp. 415-454). Orlando, FL: Academic Press. doi:10.1016/B978-0-12-586780-1.50019-7
- Fonagy, P., Steele, H., & Steele, M. (1991). Maternal representations of attachment during pregnancy predict the organization of infant-mother attachment at one year of age. *Child Development*, *62*(5), 891-905. doi:10.2307/1131141
- Fraley, R. C. (n.d.). *Relationship structures (ECR-RS) questionnaire*. Retrieved from <http://internal.psychology.illinois.edu/~rcfraley/measures/relstructures.htm>
- Fraley, R. C., Heffernan, M., Vicary, A., & Brumbaugh, C. (2011). The experiences in close relationships-relationship structures questionnaire: A method for assessing attachment orientations across relationships. *Psychological Assessment*, *23*(3), 615-625. doi:10.1037/a0022898
- Fraley, R. C., Vicary, A., Brumbaugh, C., & Roisman, G. (2011). Patterns of stability in adult attachment: An empirical test of two models of continuity and change. *Journal of Personality and Social Psychology*, *101*(5), 974-992. doi:10.1037/a0024150
- Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, *78*(2), 350-365. doi:10.1037/0022-3514.78.2.350
- Francis, D., Diorio, J., Liu, D., & Meaney, M. J. (1999). Nongenomic transmission across generations of maternal behavior and stress responses in the rat. *Science*, *286*(5442), 1155-1158. Retrieved from <http://www.jstor.org/stable/2900047>
- Fries, A. B. W., & Pollak, S. (2004). Emotion understanding in postinstitutionalized Eastern European children. *Development and Psychopathology*, *16*(2), 355-369. doi:10.1017/S0954579404044554
- Gallese, V. (2003). The roots of empathy: The shared manifold hypothesis and the neural basis of intersubjectivity. *Psychopathology*, *36*(4), 171-180. doi:10.1159/000072786
- Gallese, V. (2005). Embodied simulation: From neurons to phenomenal experience. *Phenomenology and the Cognitive Sciences*, *4*, 23-48.

- Gallese, V. (2008). Empathy, embodied simulation, and the brain: Commentary on Aragno and Zepf/Hartmann. *Journal of the American Psychoanalytic Association*, 56(3), 769-781. doi:10.1177/0003065108322206
- Gallese, V. (2009). Mirror neurons, embodied simulation, and the neural basis of social identification. *Psychoanalytic Dialogues*, 19(5), 519-536. doi:10.1080/10481880903231910
- Gallese, V., Fadiga, L., Fogassi, L., & Rizzolatti, G. (1996). Action recognition in the premotor cortex. *Brain*, 119(2), 593-609. doi:10.1093/brain/119.2.593
- Gallese, V., & Sinigaglia, C. (2011). What is so special about embodied simulation? *Trends in Cognitive Sciences*, 15(11), 512-519. doi:10.1016/j.tics.2011.09.003
- Garland, E. L., Gaylord, S. A., Boettiger, C. A., & Howard, M. O. (2010). Mindfulness training modifies cognitive, affective, and physiological mechanisms implicated in alcohol dependence: Results of a randomized controlled pilot trial. *Journal of Psychoactive Drugs*, 42(2), 177-192. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=57268355&site=ehost-live>
- George, C., & Solomon, J. (1999). Attachment and caregiving: The caregiving behavior system. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment : Theory, research, and clinical applications* (pp. 649-670). New York, NY: Guilford Press. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=262497&site=ehost-live>;
- George, C., Kaplan, N., & Main, M. (1996). *Adult attachment interview* (Unpublished manuscript, 3rd ed.). Department of Psychology, University of California, Berkeley, CA.
- Gibran, K. (1996). *The prophet*. Ware, England: Wordsworth Editions.
- Gilbert, P. (1989). *Human nature and suffering*. New York, NY: Psychology Press.
- Gillath, O., Bunge, S., Shaver, P., Wendelken, C., & Mikulincer, M. (2005). Attachment-style differences in the ability to suppress negative thoughts: Exploring the neural correlates. *Neuroimage*, 28(4), 835-847. doi:10.1016/j.neuroimage.2005.06.048
- Gillath, O., Shaver, P., & Mikulincer, M. (2005). An attachment-theoretical approach to compassion and altruism. In P. Gilbert (Ed.), *Compassion conceptualizations and use in psychotherapy* (pp. 121-147). New York, NY: Routledge.
- Gillath, O., Shaver, P. R., Mikulincer, M., Nitzberg, R. E., Erez, A., & van IJzendoorn, M. H. (2005). Attachment, caregiving, and volunteering: Placing volunteerism in an

- attachment-theoretical framework. *Personal Relationships*, 12(4), 425-446.
doi:10.1111/j.1475-6811.2005.00124.x
- Gilligan, C. (1982). *In a different voice: Psychological theory and women's development*. Cambridge, MA: Harvard University Press.
- Gilligan, C. (1995). Hearing the difference: Theorizing connection. *Hypatia*, 10(2), 120-127. Retrieved from <http://www.jstor.org/stable/3810283>
- Gilligan, C., Spencer, R., Weinberg, M. K., & Bertsch, T. (2003). On the listening guide: A voice-centered relational method. In P. Camic et al. (Eds.), *Qualitative research in psychology: Expanding perspectives in methodology and design* (pp. 157-172). Washington, DC: American Psychological Association.
- Global Association for Interpersonal Neurobiology Studies. (2012). *Home page*. Retrieved from <http://www.mindgains.org/>
- Goetz, J., Keltner, D., & Simon-Thomas, E. (2010). Compassion: An evolutionary analysis and empirical review. *Psychological Bulletin*, 136(3), 351-374.
doi:10.1037/a0018807
- Goleman, D. (1988). *The meditative mind: The varieties of meditative experience*. New York, NY: Jeremy P. Tarcher/Perigee Books.
- Goleman, D. (1996). *Vital lies, simple truths: The psychology of self deception*. New York, NY: Simon and Schuster.
- Goleman, D. J. (2011). *The brain and emotional intelligence: New insights*. Northampton, MA: More Than Sound.
- Goodall, K., Trejnowska, A., & Darling, S. (2012). The relationship between dispositional mindfulness, attachment security and emotion regulation. *Personality and Individual Differences*, 52(5), 622-626. doi:10.1016/j.paid.2011.12.008
- Gotama, S. (2000). *The connected discourses of the Buddha: Samyutta Nikaya* (B. Bodhi, Trans.). Somerville, MA: Wisdom.
- Grady, N. L. (n.d.). *When singing, just sing: Life as meditation*. Wellesley, MA: Ruby Shoes Studio.
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and*

Behavioral Assessment, 26(1), 41-54. doi:10.1023/B:JOBA.0000007455.08539.94

- Greenberg, J., Reiner, K., & Meiran, N. (2012). "Mind the trap": Mindfulness practice reduces cognitive rigidity. *Plos One*, 7(5), e36206-e36206. doi:10.1371/journal.pone.0036206
- Greene, M. (1977). Toward wide-awakeness: An argument for the arts and humanities. *Teacher's College Record*, 79(1), 119-125.
- Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of Psychosomatic Research*, 57(1), 35-43. doi:10.1016/S0022-3999(03)00573-7
- Grossman, P., Tiefenthaler-Gilmer, U., Raysz, A., & Kesper, U. (2007). Mindfulness training as an intervention for fibromyalgia: Evidence of postintervention and 3-year follow-up benefits in well-being. *Psychotherapy and Psychosomatics*, 76(4), 226-233. doi:10.1159/000101501
- Grossmann, K. E., & Grossmann, K. (1991). Attachment quality as an organizer of emotional and behavioral responses in a longitudinal perspective. In C. M. Parkes et al. (Eds.), *Attachment across the life-cycle* (pp. 93-114). London, England: Routledge.
- Grossmann, T. (2008). Shedding light on infant brain function: The use of near- infrared spectroscopy (NIRS) in the study of face perception. *Acta Pædiatrica*, 97(9), 1156-1158. doi:10.1111/j.1651-2227.2008.00938.x
- Gunnar, M. R., Bruce, J., & Grotevant, H. D. (2000). International adoption of institutionally reared children: Research and policy. *Development and Psychopathology*, 12(4), 677-693. doi:10.1017/S0954579400004077
- Gyatso, T. (2005). *The universe in a single atom: The convergence of science and spirituality*. New York, NY: Morgan Road Books.
- Hadland, K. A., Rushworth, M. F. S., Gaffan, D., & Passingham, R. E. (2003). The effect of cingulate lesions on social behaviour and emotion. *Neuropsychologia*, 41(8), 919-931. doi:10.1016/S0028-3932(02)00325-1
- Halifax, J. (2012). A heuristic model of enactive compassion. *Current Opinion in Supportive and Palliative Care*, 6(2), 228-235. doi:10.1097/SPC.0b013e3283530fbe

- Harlow, H., & Zimmerman, R. R. (1959). Affectional response in the infant monkey: Orphaned baby monkeys develop a strong and persistent attachment to inanimate surrogate mothers. *Science*, *130*(3373), 421-432.
- Hayes, A. M., & Feldman, G. (2004). Clarifying the construct of mindfulness in the context of emotion regulation and the process of change in therapy. *Clinical Psychology: Science and Practice*, *11*(3), 255-262. doi:10.1093/clipsy.bph08
- Hayes, S. C., Follette, V. M., & Linehan, M. M. (Eds.). (2004). *Mindfulness and acceptance: Expanding the cognitive-behavioral tradition*. New York, NY: Guilford Press.
- Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, *52*(3), 511-524. doi:10.1037/0022-3514.52.3.511
- Hazan, C., & Zeifman, D. (1999). Pair bonds as attachments: Evaluating the evidence. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 336-354). New York, NY: Guilford Press.
- Healy, B. T. (1992). The heritability of autonomic nervous system processes. In T. M. Field et al. (Eds.), *Stress and coping in infancy and childhood* (pp. 69-82). London, England: Psychology Press.
- Hein, G., Silani, G., Preuschoff, K., Batson, C. D., & Singer, T. (2010). Neural responses to ingroup and outgroup members' suffering predict individual differences in costly helping *Neuron*, *68*(1), 149-160. doi:10.1016/j.neuron.2010.09.003
- Heinicke, C. M. (2002). The transition to parenting. In M. H. Bornstein (Ed.), *Handbook of parenting: Volume 3. Being and becoming a parent*. (pp. 363-388). Mahwah, NJ: Lawrence Erlbaum.
- Hesse, E. (1999). The adult attachment interview. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (pp. 395-433). New York, NY: Guilford Press.
- Hesse, E., & Main, M. (1999). Second-generation effects of unresolved trauma as observed in nonmaltreating parents: Dissociated, frightened and threatening parental behavior. *Psychoanalytic Inquiry* *19*, 481-540.
- Hesse, E. & Main, M. (2000). Disorganized infant, child, and adult attachment: Collapse in behavioral and attentional strategies. *Journal of the American Psychoanalytic Association*, *48*, 1097-1127.

- Himmelstein, S., Hastings, A., Shapiro, S., & Heery, M. (2012). Mindfulness training for self-regulation and stress with incarcerated youth. *Probation Journal*, 59(2), 151-165. doi:10.1177/0264550512438256
- Hofmann, S., Grossman, P., & Hinton, D. (2011). Loving-kindness and compassion meditation: Potential for psychological interventions. *Clinical Psychology Review*, 31(7), 1126-1132. doi:10.1016/j.cpr.2011.07.003
- Holden, G. W., & Miller, P. C. (1999). Enduring and different: A meta-analysis of the similarity in parents' child rearing. *Psychological Bulletin*, 125(2), 223-254. doi:10.1037/0033-2909.125.2.223
- Hölzel, B. K., Carmody, J., Vangel, M., Congleton, C., Yerramsetti, S. M., Gard, T., et al. (2011). Mindfulness practice leads to increases in regional brain gray matter density. *Psychiatry Research: Neuroimaging*, 191(1), 36-43. doi:10.1016/j.psychresns.2010.08.006
- Hölzel, B. K., Lazar, S. W., Gard, T., Schuman-Olivier, Z., Vago, D. R., & Ott, U. (2011). How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. *Perspectives on Psychological Science*, 6(6), 537-559. doi:10.1177/1745691611419671
- Hölzel, B. K., Ott, U., Hempel, H., Hackl, A., Wolf, K., Stark, R., et al. (2007). Differential engagement of anterior cingulate and adjacent medial frontal cortex in adept meditators and non-meditators. *Neuroscience Letters*, 421(1), 16-21. doi:10.1016/j.neulet.2007.04.074
- Hoppes, S., Bryce, H., Hellman, C., & Finlay, E. (2012). The effects of brief mindfulness training on caregivers' well-being. *Activities, Adaptation & Aging*, 36(2), 147-166. doi:10.1080/01924788.2012.673154
- Hui neng. (1998). *The sutra of Hui-Neng: Grand master of Zen* (T. Cleary, Trans.). Boston, MA: Shambhala. (Original work published n.d.).
- Iacoboni, M. (2009). Imitation, empathy, and mirror neurons. *Annual Review of Psychology*, 60, 653-670. doi:10.1146/annurev.psych.60.110707.163604
- Iacoboni, M., & Mazziotta, J. (2007). Mirror neuron system: Basic findings and clinical applications. *Annals of Neurology*, 62(3), 213-218. doi:10.1002/ana.21198
- Iacoboni, M., Molnar-Szakacs, I., Gallese, V., Buccino, G., Mazziotta, J. C., & Rizzolatti, G. (2005). Grasping the intentions of others with one's own mirror neuron system. *PLoS Biology*, 3(3), 529-535. doi:10.1371/journal.pbio.6030079

- Jacobs, T., Epel, E., Lin, J., Blackburn, E., Wolkowitz, O., Bridwell, D., et al. (2011). Intensive meditation training, immune cell telomerase activity, and psychological mediators. *Psychoneuroendocrinology*, *36*(5), 664-681. doi:10.1016/j.psyneuen.2010.09.010
- Jalal, D. R., Barks, C., & Green, M. (1997). *The illuminated Rumi*. New York, NY: Broadway Books.
- Jastrow, J. (1900). *Fact and fable in psychology*. Boston, MA: Houghton Mifflin.
- Jennings, P. A., Snowberg, K. E., Coccia, M. A., & Greenberg, M. T. (2011). Improving classroom learning environments by cultivating awareness and resilience in education (CARE): Results of two pilot studies. *Journal of Classroom Interaction*, *46*(1), 37-48. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=66779506&site=ehost-live>
- Jha, A. P., Krompinger, J., & Baime, M. J. (2007). Mindfulness training modifies subsystems of attention. *Cognitive, Affective and Behavioral Neuroscience*, *7*(2), 109-119.
- Kabat-Zinn, J. (1982). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General hospital psychiatry*, *4*(1), 33-47.
- Kabat-Zinn, J. (1990). *Full catastrophe living*. New York, NY: Delacorte Press.
- Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice*, *10*(2), 144-156. doi:10.1093/clipsy.bpg016
- Kabat-Zinn, J., & Kabat-Zinn, M. (1997). *Everyday blessings: The inner work of mindful parenting*. New York, NY: Hyperion.
- Kabat-Zinn, J., Lipworth, L., & Burney, R. (1985). The clinical use of mindfulness meditation for the self-regulation of chronic pain. *Journal of Behavioral Medicine*, *8*(2), 163-190. doi:10.1007/BF00845519
- Kasprian, G., Langs, G., Brugger, P., Bittner, M., Weber, M., Arantes, M., et al. (2011). The prenatal origin of hemispheric asymmetry: An in utero neuroimaging study. *Cerebral Cortex*, *21*(5), 1076-1083. doi:10.1093/cercor/bhq179
- Kelley, M., Nair, V., Rawlings, T., Cash, T., Steer, K., & Fals Stewart, W. (2005). Retrospective reports of parenting received in their families of origin: Relationships to adult attachment in adult children of alcoholics. *Addictive Behaviors*, *30*(8), 1479-1495. doi:10.1016/j.addbeh.2005.03.005

- Klimecki, O., Leiberg, S., Lamm, C., & Singer, T. (2012). Functional neural plasticity and associated changes in positive affect after compassion training. *Cerebral Cortex*. doi:10.1093/cercor/bhs142
- Kohler, E., Keysers, C., Alessandra Umiltà, M., Fogassi, L., Gallese, V., & Rizzolatti, G. (2002). Hearing sounds, understanding actions: Action representation in mirror neurons. *Science*, 297(5582), 846-848. doi:10.1126/science.1070311
- Kunce, L. J., & Shaver, P. R. (1994). An attachment-theoretical approach to caregiving in romantic relationships. In K. Bartholomew & D. Perlman (Eds.), *Advances in Personal Relationships* (Vol. 5, pp. 205-237). London, England: Jessica Kingsley.
- LaFreniere, P. J., & Sroufe, L. A. (1985). Profiles of peer competence in the preschool: Interrelations between measures, influence of social ecology, and relation to attachment history. *Developmental Psychology*, 21(1), 56-69.
- Lambert, K., & Kinsley, C. H. (2012). Brain and behavioral modifications that accompany the onset of motherhood. *Parenting, Science and Practice*, 12(1), 74. doi:10.1080/15295192.2012.638868
- Lamm, C., Meltzoff, A. N., & Decety, J. (2010). How do we empathize with someone who is not like us? A functional magnetic resonance imaging study. *Journal of Cognitive Neuroscience*, 22(2), 362-376. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=47675677&site=ehost-live>
- Lazar, S., Kerr, C., Wasserman, R., Gray, J., Greve, D., Treadway, M., . . . Fischl, B. (2005). Meditation experience is associated with increased cortical thickness. *Neuroreport*, 16(17), 1893-1897. doi:10.1097/01.wnr.0000186598.66243.19
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York, NY: Oxford University Press.
- Leary, M. R., Tate, E. B., Adams, C. E., Allen, A. B., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *Journal of Personality and Social Psychology*, 92(5), 887-904. doi:10.1037/0022-3514.92.5.887
- Lee, S. S., August, G. J., Gewirtz, A. H., Klimes-Dougan, B., Bloomquist, M. L., & Realmuto, G. M. (2010). Identifying unmet mental health needs in children of formerly homeless mothers living in a supportive housing community sector of care *Journal of Abnormal Child Psychology*, 38(3), 421-32. doi:10.1007/s10802-009-9378-1
- Lengacher, C., Kip, K., Barta, M., Post White, J., Jacobsen, P., Groer, M., . . . Shelton, M. (2012). A pilot study evaluating the effect of mindfulness-based stress reduction on psychological status, physical status, salivary cortisol, and

- interleukin-6 among advanced-stage cancer patients and their caregivers. *Journal of Holistic Nursing*, 30(3), 170-185. doi:10.1177/0898010111435949
- Lenzi, D., Trentini, C., Pantano, P., Macaluso, E., Iacoboni, M., Lenzi, G. L., et al. (2009). Neural basis of maternal communication and emotional expression processing during infant preverbal stage. *Cerebral Cortex*, 19(5), 1124-1133. doi:10.1093/cercor/bhn153
- Lilja, J. L., Lundh, L. G., Josefsson, T., & Falkenström, F. (2012). Observing as an essential facet of mindfulness: a comparison of FFMQ patterns in meditating and non-meditating individuals. *Mindfulness*, 1-10. doi:10.1007/s12671-012-0111-8
- Linehan, M. M. (1993). *Cognitive behavioral treatment of borderline personality disorder*. New York, NY: Guilford Press.
- Lorberbaum, J. P., Newman, J. D., Dubno, J. R., Horwitz, A. R., Nahas, Z., Teneback, C. C., . . . George, M. S. (1999). Feasibility of using fMRI to study mothers responding to infant cries. *Depression and Anxiety*, 10(3), 99-104. doi:10.1002/(SICI)1520-6394(1999)10:3<99::AID-DA2>3.0.CO;2-#
- Lorenz, K. Z. (1937). The companion in the bird's world. *The Auk*, 54(3), 245-273. Retrieved from <http://elibrary.unm.edu/sora/Auk/v054n03/p0245-p0273.pdf>
- Luders, E., Toga, A. W., Lepore, N., & Gaser, C. (2009). The underlying anatomical correlates of long-term meditation: Larger hippocampal and frontal volumes of gray matter. *Neuroimage*, 45(3), 672-678. doi:10.1016/j.neuroimage.2008.12.061
- Lui, M., Robles, B., & Leondar-Wright, B. (2006). *Color of wealth: The story behind the U.S. racial wealth divide*. New York, NY: The New Press.
- Lutz, A., Brefczynski Lewis, J., Johnstone, T., & Davidson, R. (2008). Regulation of the neural circuitry of emotion by compassion meditation: Effects of meditative expertise. *Plos One*, 3(3), e1897-e1897. doi:10.1371/journal.pone.0001897
- Lutz, A., Greischar, L., Rawlings, N., Ricard, M., & Davidson, R. (2004). Long-term meditators self-induce high-amplitude gamma synchrony during mental practice. *Proceedings of the National Academy of Sciences of the United States of America*, 101(46), 16369-16373. doi:10.1073/pnas.040740110
- Lyons-Ruth, K., Bronfman, E., & Parsons, E. (1999). Maternal frightened, frightening, or atypical behavior and disorganized infant attachment patterns. *Monographs of the Society for Research in Child Development*, 64(3), 67-96. Retrieved from <http://www.jstor.org/stable/3181559>

- Main, M. (1990). Parental aversion to infant-initiated contact is correlated with the parent's own rejection during childhood: The effects of experience on signals of security with respect to attachment. In K. E. Barnard & T. B. Brazelton (Eds.), *Touch: The foundation of experience* (pp. 461-495). Madison, CT: International University Press.
- Main, M., & Hesse, E. (1993). Parents' unresolved traumatic experiences are related to infant disorganized attachment status: Is frightened and/or frightening parental behavior the linking mechanism? In M. Greenberg et al. (Eds.), *Attachment in the preschool years* (pp. 161-184). Chicago, IL: University of Chicago Press.
- Main, M., Hesse, E., & Kaplan, N. (2005). Predictability of attachment behavior and representational processes at 1, 6, and 19 years of age. In K. E. Grossmann et al. (Eds.), *Attachment from infancy to adulthood: The major longitudinal studies* (pp. 245-304). New York, NY: Guilford Press.
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. *Monographs of the Society for Research in Child Development*, 50(1/2), 66-104.
- Main, M., & Solomon, J. (1986). Discovery of an insecure-disorganized/disoriented attachment pattern. In T. B. Brazelton & M. W. Yogman (Eds.), *Affective development in infancy* (pp. 95-124). Norwood, NJ: Ablex.
- Maloney, R., & Altmaier, E. (2007). An initial evaluation of a mindful parenting program. *Journal of Clinical Psychology*, 63(12), 1231-1238. doi:10.1002/jclp.20395
- Mauthner, N. S. (1999). "Feeling low and feeling really bad about feeling low": Women's experiences of motherhood and postpartum depression. *Canadian Psychology/Psychologie Canadienne*, 40(2), 143-161. doi:http://dx.doi.org/10.1037/h0086833
- Mauthner, N. S., & Doucet, A. (2003). Reflexive accounts and accounts of reflexivity in qualitative data analysis. *Sociology*, 37(3), 413-431. doi:10.1177/00380385030373002
- Mbiti, J. S. (1990). *African religions & philosophy* (African Writers Series). Portsmouth, NH: Heinemann.
- McCracken, L., Gauntlett-Gilbert, J., & Vowles, K. (2007). The role of mindfulness in a contextual cognitive-behavioral analysis of chronic pain-related suffering and disability. *Pain*, 131(1-2), 63-69. doi:10.1016/j.pain.2006.12.013

- McEwen, B. S. (2004). Protection and damage from acute and chronic stress: Allostasis and allostatic overload and relevance to the pathophysiology of psychiatric disorders. *Annals of the New York Academy of Sciences*, 1032(1), 1-7. doi:10.1196/annals.1314.001
- Meaney, M. J. (2001). Maternal care, gene expression, and the transmission of individual differences in stress reactivity across generations. *Annual Review of Neuroscience*, 24(1), 1161-1192. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=12455203&site=ehost-live>
- Meins, E. (1997). *Security of attachment and the social development of cognition*. Hove, England: Psychology Press.
- Meins, E., Fernyhough, C., Fradley, E., & Tuckey, M. (2001). Rethinking maternal sensitivity: Mothers' comments on infants' mental processes predict security of attachment at 12 months. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, 42(5), 637. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=4865458&site=ehost-live>
- Meins, E., Fernyhough, C., Wainwright, R., Das Gupta, M., Fradley, E., & Tuckey, M. (2002). Maternal mind-mindedness and attachment security as predictors of theory of mind understanding. *Child Development*, 73(6), 1715-1726. doi:10.1111/1467-8624.00501
- Mickelson, K. D., Kessler, R. C., & Shaver, P. R. (1997). Adult attachment in a nationally representative sample. *Journal of Personality and Social Psychology*, 73(5), 1092-1106. doi:10.1037/0022-3514.73.5.1092
- Mikulincer, M., & Florian, V. (1999). The association between parental reports of attachment style and family dynamics, and offspring's reports of adult attachment style. *Family Process*, 38(2), 243-257. doi:10.1111/j.1545-5300.1999.00243.x
- Mikulincer, M., Hirschberger, G., Nachmias, O., & Gillath, O. (2001). The affective component of the secure base schema: Affective priming with representations of attachment security. *Journal of Personality and Social Psychology*, 81(2), 305-321. doi:10.1037/0022-3514.81.2.305
- Mikulincer, M., & Shaver, P. R. (2001). Attachment theory and intergroup bias: Evidence that priming the secure base schema attenuates negative reactions to out-groups. *Journal of Personality and Social Psychology*, 81(1), 97-115. doi:10.1037/0022-3514.81.1.97

- Mikulincer, M., & Shaver, P. R. (2003). The attachment behavioral system in adulthood: Activation, psychodynamics, and interpersonal processes. *Advances in Experimental Social Psychology* 35, 53-152. doi:10.1016/S0065-2601(03)01002-5
- Mikulincer, M., & Shaver, P. R. (2005). Attachment security, compassion, and altruism. *Current Directions in Psychological Science*, 14(1), 34-38. doi:10.1111/j.0963-7214.2005.00330.x
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York, NY: Guilford Press.
- Mikulincer, M., Shaver, P. R., & Pereg, D. (2003). Attachment theory and affect regulation: The dynamics, development, and cognitive consequences of attachment-related strategies. *Motivation and Emotion*, 27(2), 77-102. doi:10.1023/A:1024515519160
- Mikulincer, M., Shaver, P. R., & Rom, E. (2011). The effects of implicit and explicit security priming on creative problem solving. *Cognition and Emotion*, 25(3), 519-531. doi:10.1080/02699931.2010.540110
- Miller, L., Chan, W., Reece, R., Tirella, L., & Pertman, A. (2007). Child abuse fatalities among internationally adopted children. *Child Maltreatment*, 12(4), 378-380. doi:10.1177/1077559507306716
- Minagawa-Kawai, Y., Matsuoka, S., Dan, I., Naoi, N., Nakamura, K., & Kojima, S. (2009). Prefrontal activation associated with social attachment: Facial-emotion recognition in mothers and infants. *Cerebral Cortex*, 19(2), 284-292. doi:10.1093/cercor/bhn081
- Minor, H., Carlson, L., Mackenzie, M., Zernicke, K., & Jones, L. (2006). Evaluation of a mindfulness-based stress reduction (MBSR) program for caregivers of children with chronic conditions. *Social Work in Health Care*, 43(1), 91-109. doi:10.1300/J010v43n01_06
- Mipham, S. (2010, January). How to do mindfulness meditation. *Shambhala Sun*, 18(8). Retrieved from http://www.shambhalasun.com/index.php?option=com_content&task=view&id=2125&Itemid=0
- Moffitt, T., Arseneault, L., Belsky, D., Dickson, N., Hancox, R., Harrington, H., . . . Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences of the United States of America*, 108(7), 2693-2698. doi:10.1073/pnas.1010076108

- Mukamel, R., Ekstrom, A., Kaplan, J., Iacoboni, M., & Fried, I. (2010). Single-neuron responses in humans during execution and observation of actions. *Current Biology*, 20(8), 750-756. doi:10.1016/j.cub.2010.02.045
- National Center on Family Homelessness. (2012). *Collaborating to improve TANF resources for families experiencing homelessness*. Retrieved from <http://www.familyhomelessness.org/>
- National Scientific Council on the Developing Child. (2005). *Excessive stress disrupts the architecture of the developing brain* (Working paper #3). Retrieved from http://www.healthandwelfare.idaho.gov/Portals/0/Children/EarlyChildhoodInfo/Stress_Disrupts_Architecture_Developing_Brain.pdf
- National Women's Law Center. (2011). *Poverty among women and families, 2000-2010: Extreme poverty reaches record levels as Congress faces critical choices*. Retrieved from <http://www.nwlc.org/sites/default/files/povertyamongwomenandfamilies2010final.pdf>
- Neely, M. E., Schallert, D. L., Mohammed, S. S., Roberts, R. M., & Chen, Y. (2009). Self-kindness when facing stress: The role of self-compassion, goal regulation, and support in college students' well-being. *Motivation and Emotion*, 33(1), 88-97. doi:10.1007/s11031-008-9119-8
- Neff, K. (2003a). The development and validation of a scale to measure self-compassion. *Self & Identity*, 2(3), 223. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=10182182&site=ehost-live>
- Neff, K. (2003b). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self & Identity*, 2(2), 85. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=9473400&site=ehost-live>
- Neff, K., & Vonk, R. (2009). Self-compassion versus global self-esteem: Two different ways of relating to oneself. *Journal of Personality*, 77(1), 23-50. doi:10.1111/j.1467-6494.2008.00537.x
- Neff, K. D. (2012). The science of self-compassion. In C. Germer & R. Siegel (Eds.), *Compassion and wisdom in psychotherapy* (pp. 79-92). New York, NY: Guilford Press.
- Neff, K. D., Kirkpatrick, K. L., & Rude, S. S. (2007). Self-compassion and adaptive psychological functioning. *Journal of Research in Personality*, 41(1), 139-154. doi:10.1016/j.jrp.2006.03.004

- Neff, K. D., & McGehee, P. (2010). Self-compassion and psychological resilience among adolescents and young adults. *Self and Identity*, 9(3), 225-240. doi:10.1080/15298860902979307
- Neff, K. D., Rude, S. S., & Kirkpatrick, K. L. (2007). An examination of self-compassion in relation to positive psychological functioning and personality traits. *Journal of Research in Personality*, 41(4), 908-916. doi:10.1016/j.jrp.2006.08.002
- Nelson, P. (2012). *There's a hole in my sidewalk*. New York, NY: Atria Books.
- Niemann, S., & Weiss, S. (2012). Factors affecting attachment in international adoptees at 6 months post adoption. *Children and Youth Services Review*, 34(1), 205-212. doi:10.1016/j.chilyouth.2011.10.001
- Nieuwenhuis, S., Ridderinkhof, K. R., Blom, J., Band, G. P., & Kok, A. (2001). Error-related brain potentials are differentially related to awareness of response errors: Evidence from an antisaccade task. *Psychophysiology*, 38(5), 752-760. doi:10.1111/1469-8986.3850752
- Norman, K. R. (Trans.). (1992). *The group of discourses (Sutta Nipāta) II. Revised translation with introduction and notes* (Pali Text Society Translation Series, 45). Oxford, England: The Pali Text Society.
- Nyaniponika. (1973). *The heart of Buddhist meditation*. New York, NY: Weiser Books.
- O'Connor, T., Bergman, K., Sarkar, P., & Glover, V. (2012). Prenatal cortisol exposure predicts infant cortisol response to acute stress. *Developmental Psychobiology*. doi:10.1002/dev.21007
- O'Connor, T. G., & Rutter, M. (2000). Attachment disorder behavior following early severe deprivation: Extension and longitudinal follow-up. *Journal of the American Academy of Child & Adolescent Psychiatry*, 39(6), 703-712. doi:10.1097/00004583-200006000-00008
- Ollhoff, J., & Walcheski, M. (2002). *Stepping into wholes*. Eden Prairie, MN: Sparrow Media Group.
- Paquette, K., & Bassuk, E. L. (2009). Parenting and homelessness: Overview and introduction to the special section. *Journal of Orthopsychiatry*, 79(3), 292-298. doi:10.1037/a0017245
- Pascual Leone, A., Amedi, A., Fregni, F., & Merabet, L. (2005). The plastic human brain cortex. *Annual Review of Neuroscience*, 28, 377-401. doi:10.1146/annurev.neuro.27.070203.144216

- Pascual Leone, A., Freitas, C., Oberman, L., Horvath, J., Halko, M., Eldaief, M., et al. (2011). Characterizing brain cortical plasticity and network dynamics across the age-span in health and disease with TMS-EEG and TMS-fMRI. *Brain Topography*, 24(3-4), 302-315. doi:10.1007/s10548-011-0196-8
- Pearce, D. (1978). The feminization of poverty: Women, work, and welfare. *Urban and Social Change Review*, 11, 28-36.
- Porges, S. W. (1992). Vagal tone: A physiologic marker of stress vulnerability. *Pediatrics*, 90(3), 498-504.
- Porges, S. W. (2001). The polyvagal theory: Phylogenetic substrates of a social nervous system. *International Journal of Psychophysiology*, 42(2), 123-146. doi:10.1016/S0167-8760(01)00162-3
- Porges, S. W. (2003). Social engagement and attachment. *Annals of the New York Academy of Sciences*, 1008(1), 31-47. doi:10.1196/annals.1301.004
- Preston, S., & de Waal, F. B. M. (2002). Empathy: Its ultimate and proximate bases. *Behavioral and Brain Sciences*, 25(1), 1-20.
- Quirin, M., Gillath, O., Pruessner, J., & Eggert, L. (2010). Adult attachment insecurity and hippocampal cell density. *Social Cognitive and Affective Neuroscience*, 5(1), 39-47. doi:10.1093/scan/nsp042
- Rahn, J. (2000). *Music inside out: Going too far in musical essays*. Amsterdam, Netherlands: G+B Arts International.
- Raider-Roth, M. B. (2005). *Trusting what you know*. San Francisco, CA: Jossey-Bass.
- Raikes, H. A., & Thompson, R. A. (2005). Efficacy and social support as predictors of parenting stress among families in poverty. *Infant Mental Health Journal*, 26(3), 177-190. doi:10.1002/imhj.20044
- Rakic, P. (2002). Neurogenesis in adult primate neocortex: An evaluation of the evidence. *Nature Reviews Neuroscience*, 3(1), 65-71. doi:10.1038/nrn700
- Ramachandran, V. S. (2007). Mirror neurons and imitation as the driving force behind "the great leap forward" in human evolution. *EDGE: The Third Culture*. Retrieved from http://www.edge.org/3rd_culture/ramachandran/ramachandran_p1.html
- Ravitz, P., Maunder, R., Hunter, J., Sthankiya, B., & Lancee, W. (2010). Adult attachment measures: A 25-year review. *Journal of Psychosomatic Research*, 69(4), 419-432. doi:10.1016/j.jpsychores.2009.08.006

- Reutter, L. I., Stewart, M. J., Veenstra, G., Love, R., Raphael, D., & Makwarimba, E. (2009). "Who do they think we are, anyway?": Perceptions of and responses to poverty stigma. *Qualitative Health Research*, *19*(3), 297-311. doi:10.1177/1049732308330246
- Reyes, D. (2012). Self-compassion: A concept analysis. *Journal of Holistic Nursing* *30*(2), 81-89. doi:10.1177/0898010111423421
- Rilling, J. K., Gutman, D. A., Zeh, T. R., Pagnoni, G., Berns, G. S., & Kilts, C. D. (2002). A neural basis for social cooperation. *Neuron*, *35*(2), 395-405. doi:10.1016/S0896-6273(02)00755-9
- Rizzolatti, G., Fadiga, L., Gallese, V., & Fogassi, L. (1996). Premotor cortex and the recognition of motor actions. *Cognitive Brain Research*, *3*, 593-609.
- Ruddick, S. (1995). *Maternal thinking: Toward a politics of peace*. Boston, MA: Beacon Press.
- Rutter, M. (1998). Developmental catch-up, and deficit, following adoption after severe global early privation. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, *39*(4), 465. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=629876&site=ehost-live>
- Ryan, T. (2012). *A mindful nation: How a simple practice can help us reduce stress, improve performance, and recapture the American spirit*. Carlsbad, CA: Hay House.
- Sahdra, B., MacLean, K., Ferrer, E., Shaver, P., Rosenberg, E., Jacobs, T., et al. (2011). Enhanced response inhibition during intensive meditation training predicts improvements in self-reported adaptive socioemotional functioning. *Emotion*, *11*(2), 299-312. doi:10.1037/a0022764
- Salzberg, S. (2008). *Loving kindness*. Boston, MA: Shambhala.
- Sander, L. (1975). Infant and caretaking environment. In E. J. Anthony (Ed.), *Explorations in child psychiatry* (pp. 129-165). New York, NY: Plenum.
- Schippers, M., Roebroek, A., Renken, R., Nanetti, L., & Keysers, C. (2010). Mapping the information flow from one brain to another during gestural communication. *Proceedings of the National Academy of Sciences of the United States of America*, *107*(20), 9388-9393. doi:10.1073/pnas.1001791107
- Schore, A. N. (1994). *Affect regulation and the origin of the self: The neurobiology of emotional development*. Mahwah, NJ: Erlbaum.

- Schore, A. N. (2000a). Attachment and the regulation of the right brain. *Attachment & Human Development*, 2(1), 23-47. doi:10.1080/146167300361309
- Schore, A. N. (2000b). *Parent-infant communication and the neurobiology of emotional development*. Paper presented at the Head Start's Fifth National Research Conference, Developmental and Contextual Transitions of Children and Families: Implications for Research, Policy and Practice, Washington, DC.
- Schore, A. N. (2001a). Contributions from the decade of the brain to infant mental health: An overview. *Infant Mental Health Journal*, 22(1-2), 1-6. doi:10.1002/1097-0355(200101/04)22:1<1::AID-IMHJ1>3.0.CO;2-W
- Schore, A. N. (2001b). The effects of early relational trauma on right brain development, affect regulation, and infant mental health. *Infant Mental Health Journal*, 22(1-2), 201-269. doi:10.1002/1097-0355(200101/04)22:1<201::AID-IMHJ8>3.0.CO;2-9
- Schore, A. N. (2001c). Effects of secure attachment relationship on right brain development, affect regulation, and infant mental health. *Infant Mental Health Journal*, 22(1/2), 7-66.
- Schore, A. N. (2003). *Affect dysregulation and disorders of the self* (Vol. 1). New York, NY: Norton.
- Schore, A. N. (2005). Back to basics: Attachment, affect regulation, and the developing right brain: Linking developmental neuroscience to pediatrics. *Pediatrics in Review*, 26(6), 204-217. doi:10.1542/pir.26-6-204
- Schore, A. N. (2012). *The science of the art of psychotherapy*. New York, NY: Norton.
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York, NY: Guilford Press.
- Shapiro, S. L., Astin, J. A., Bishop, S. R., & Cordova, M. (2005). Mindfulness-based stress reduction for health care professionals: Results from a randomized trial. *International Journal of Stress Management*, 12(2), 164-176. doi:10.1037/1072-5245.12.2.164
- Shaver, P. R., Collins, N., & Clark, K. L. (1996). Attachment styles and internal working models of self and relationship partners. In G. Fletcher & J. Fitness (Eds.), *Knowledge structures in close relationships: A social psychological approach* (pp. 25-61). Mahwah, NJ: Lawrence Erlbaum.

- Shaver, P. R., Lavy, S., Saron, C. D., & Mikulincer, M. (2007). Social foundations of the capacity for mindfulness: An attachment perspective. *Psychological Inquiry, 18*(4), 264-271. doi:10.1080/10478400701598389
- Shaver, P. R., & Mikulincer, M. (2002). Attachment-related psychodynamics. *Attachment Human Development, 4*(2), 133-161. doi:10.1080/14616730210154171
- Shonkoff, J. P., & Phillips, D. A. (Eds.). (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: The National Academies Press.
- Siegel, D. J. (2006). An interpersonal neurobiology approach to psychotherapy. *Psychiatric Annals, 36*(4), 248-256. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=hch&AN=20643985&site=ehost-live>
- Siegel, D. J. (2007a). *The mindful brain: Reflection and attunement in the cultivation of well-being*. New York, NY: Norton.
- Siegel, D. J. (2007b). Mindfulness training and neural integration: Differentiation of distinct streams of awareness and the cultivation of well-being. *Social Cognitive and Affective Neuroscience, 2*(4), 259-263. doi:10.1093/scan/nsm034
- Siegel, D. J. (2009). Mindful awareness, mindsight, and neural integration. *Humanistic Psychologist, 37*(2), 137-158. doi:10.1080/08873260902892220
- Siegel, D. J. (2012). *Pocket guide to interpersonal neurobiology*. New York, NY: Norton.
- Siegel, D. J., & Hartsell, M. (2003). *Parenting from the inside out: How a deeper understanding can help you raise children who thrive*. New York, NY: Penguin Putnam.
- Sieratzki, J. S., & Woll, B. (1996). Why do mothers cradle babies on their left? *The Lancet, 347*(9017), 1746-1748. doi:10.1016/S0140-6736(96)90813-2
- Simpson, J. A., Rholes, W. S., & Shallcross, S. (2012). Attachment and depression across the transition to parenthood: Social policy implications. In P. Noller & G. C. Karantzas (Eds.), *The Wiley-Blackwell handbook of couples and family relationships* (pp. 377-391). West Sussex, England: Wiley-Blackwell.
- Singer, T., & Lamm, C. (2009). The social neuroscience of empathy. *Annals of the New York Academy of Sciences, 1156*(1), 81-96. doi:10.1111/j.1749-6632.2009.04418.x

- Singh, N., Lancioni, G., Winton, A., Singh, J., Singh, A., Adkins, A., et al. (2010). Training in mindful caregiving transfers to Parent-child interactions. *Journal of Child & Family Studies, 19*(2), 167-174. doi:10.1007/s10826-009-9267-9
- Singh, N., Lancioni, G. E., Winton, A. S., Singh, J., Curtis, J., Wahler, R. G., et al. (2007). Mindful parenting decreases aggression and increases social behavior in children with developmental disabilities. *Behavior Modification, 31*(6), 749-71. doi:10.1177/0145445507300924
- Singh, N. N., Lancioni, G. E., Winton, A. S., Fisher, B. C., Wahler, R. G., McAleavy, K., et al. (2006). Mindful parenting decreases aggression, noncompliance, and self-injury in children with autism. *Journal of Emotional & Behavioral Disorders, 14*(3), 169-177. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=21972741&site=ehost-live>
- Smyke, A., Dumitrescu, A., & Zeanah, C. (2002). Attachment disturbances in young children. I: The continuum of caretaking casualty. *Journal of the American Academy of Child Adolescent Psychiatry, 41*(8), 972-982. doi:10.1097/00004583-200208000-00016
- Solomon, J., & George, C. (1999). The measurement of attachment security in infancy and childhood. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, ad applications* (pp. 287-316). New York, NY: Guilford Press.
- Spangler, G., & Grossmann, K. E. (1993). Biobehavioral organization in securely and insecurely attached infants. *Child Development, 64*(5), 1439-1450. doi:10.2307/1131544
- Sroufe, L. A. (1985). Attachment classification from the perspective of infant-caregiver relationships and infant temperament. *Child Development, 56*(1), 1-14. Retrieved from <http://www.jstor.org/stable/1130168>
- Sroufe, L. A. (1990). An organizing perspective on the self. In D. Cicchetti & M. Beeghly (Eds.), *The self in transition: Infancy to childhood* (pp. 281-303). Chicago, IL: University of Chicago Press.
- Sroufe, L. A., Egeland, B., Carlson, E. A., & Collins, W. G. (2005). *The development of the person: The Minnesota study of risk and adaptation from birth to adulthood*. New York, NY: Guilford.
- Sroufe, L. A., & Siegel, D. J. (2011). The case for attachment theory: The verdict is in. *Psychotherapy Networker, 35*(34-39), 52-53.

- Sroufe, L. A., & Waters, E. (1977). Attachment as an organizational construct. *Child Development, 48*(4), 1184-1199. Retrieved from <http://www.jstor.org/stable/1128475>
- Stovall, K. C., & Dozier, M. (2000). The development of attachment in new relationships: Single subject analyses for 10 foster infants. *Development and Psychopathology, 12*(2), 133-156. doi:10.1017/S0954579400002029
- Styron, T. H., Janoff-Bulman, R., & Davidson, L. (2000). "Please ask me how I am": Experiences of family homelessness in the context of single mothers' lives. *Journal of Social Distress and the Homeless, 9*(2), 143-165.
- Substance Abuse and Mental Health Services Administration. (2011). *Current statistics on the prevalence and characteristics of people experiencing homelessness in the United States*. Retrieved from http://homeless.samhsa.gov/ResourceFiles/hrc_factsheet.pdf
- Sullivan, W. (1972, April 14). The Einstein papers: Man of many parts was long involved in the cause of peace. *New York Times*, p. 1.
- Sumedho, A. (2010). *Now is the knowing*. Retrieved from www.buddhanet/nowknow.htm
- Swain, J. E., Lorberbaum, J. P., Kose, S., & Strathearn, L. (2007). Brain basis of early parent/infant interactions: Psychology, physiology, and in vivo functional neuroimaging studies. *Journal of Child Psychology and Psychiatry, 48*(3-4), 262-287. doi:10.1111/j.1469-7610.2007.01731.x
- Talbot, Y. (1978). Letters to the editor. Neonatal mortality: Response to Myron Wegman. *Pediatrics, 62*(3), 438.
- Tang, Y., Ma, Y., Wang, J., Fan, Y., Feng, S., Lu, Q., . . . Posner, M. I. (2007). Short-term meditation training improves attention and self-regulation. *Proceedings of the National Academy of Sciences, 104*(43), 17152-17156. doi:10.1073/pnas.0707678104
- Teasdale, J. D., Segal, Z. V., Williams, J. M., Ridgeway, V. A., Soulsby, J. M., & Lau, M. A. (2000). Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting and Clinical Psychology, 68*(4), 615-623. doi:10.1037/0022-006X.68.4.615
- Thera, N. (2001). *The power of mindfulness: An inquiry into the scope of bare attention and the principal sources of its strength*. Penang, Malaysia: Sukhi Hotu.

- Treadway, M. T., & Lazar, S. W. (2009). The neurobiology of mindfulness. In F. Didonna (Ed.), *Clinical handbook of mindfulness* (pp. 45-57). New York, NY: Springer. doi:10.1007/978-0-387-09593-6_4
- Trevarthen, C. (1996). Lateral asymmetries in infancy: Implications for the development of the hemispheres. *Neuroscience & Biobehavioral Reviews*, 20(4), 571-586. doi:10.1016/0149-7634(95)00070-4
- Trevarthen, C., & Aitken, K. J. (2001). Infant intersubjectivity: Research, theory, and clinical applications. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, 42(1), 3. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=4249278&site=ehost-live>
- Tronick, E., Als, H., Adamson, L., Wise, S., & Brazelton, T. B. (1978). The infant's response to entrapment between contradictory messages in face-to-face interaction. *Journal of the American Academy of Child Psychiatry*, 17(1), 1-13. doi:10.1016/S0002-7138(09)62273-1
- Uddin, L., Iacoboni, M., Lange, C., & Keenan, J. (2007). The self and social cognition: The role of cortical midline structures and mirror neurons. *Trends in Cognitive Sciences*, 11(4), 153-157. doi:10.1016/j.tics.2007.01.001
- U.S. Department of Health and Human Services. (2008). *Proceedings from a working meeting on recent school readiness research: Guiding the synthesis of early childhood research*. Washington, DC: Author.
- U. S. Department of Housing and Urban Development. (2010). *The 2010 annual homeless assessment report to Congress*. Washington, DC: Author. Retrieved from <https://www.onecpd.info/resources/documents/2010homelessassessmentreport.pdf>
- Van der Cingel, M. (2009). Compassion and professional care: Exploring the domain. *Nursing Philosophy*, 10(2), 124-136. doi:10.1111/j.1466-769X.2009.00397.x
- Van der Mark, I., van IJzendoorn, M. H., & Bakermans-Kranenburg, M. (2002). Development of empathy in girls during the second year of life: Associations with parenting, attachment, and temperament. *Social Development*, 11(4), 451-468. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=7461595&site=ehost-live>
- Vander Valk, D. (2010). Maternal practice. In A. O'Reilly (Ed.), *Encyclopedia of motherhood* (pp. 723-725). Thousand Oaks, CA: SAGE.
- van IJzendoorn, M. H., Schuengel, C., & Bakermans-Kranenburg, M. J. (1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae. *Development and Psychopathology*, 11(2), 225-249.

- Vaughn, B., Egeland, B., Sroufe, L. A., & Waters, E. (1979). Individual differences in infant-mother attachment at twelve and eighteen months: Stability and change in families under stress. *Child Development, 50*(4), 971. doi:10.1111/1467-8624.ep7251685
- Vieten, C., Amorok, T., & Schlitz, M. M. (2006). I to we: The role of consciousness transformation in compassion and altruism. *Zygon: Journal of Religion & Science, 41*(4), 915-932. doi:10.1111/j.1467-9744.2006.00788.x
- Vieten, C., & Astin, J. (2008). Effects of a mindfulness-based intervention during pregnancy on prenatal stress and mood: Results of a pilot study. *Archives of Women's Mental Health, 11*(1), 67-74. doi:http://dx.doi.org/10.1007/s00737-008-0214-3
- Walach, H., Buchheld, N., Buttenmüller, V., Kleinknecht, N., & Schmidt, S. (2006). Measuring mindfulness—the Freiburg Mindfulness Inventory (FMI). *Personality and Individual Differences, 40*(8), 1543-1555. doi:10.1016/j.paid.2005.11.025
- Waters, H. S., Rodrigues, L. M., & Ridgeway, D. (1998). Cognitive underpinnings of narrative attachment assessment. *Journal of experimental child psychology, 71*(3), 211-234. doi:10.1006/jecp.1998.2473
- Weinfield, N. S., Sroufe, L. A., Egeland, B., & Carlson, E. (2008). The nature of individual differences in infant-caregiver attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 68-88). New York, NY: Guilford Press. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=262497&site=ehost-live>;
- Williams, K., & Wahler, R. (2010). Are mindful parents more authoritative and less authoritarian? An analysis of clinic-referred mothers. *Journal of Child & Family Studies, 19*(2), 230-235. doi:10.1007/s10826-009-9309-3
- Witek-Janusek, L., Albuquerque, K., Chroniak, K., Chroniak, C., Durazo-Arvizu, R., & Mathews, H. (2008). Effect of mindfulness based stress reduction on immune function, quality of life and coping in women newly diagnosed with early stage breast cancer. *Brain, Behavior, and Immunity, 22*(6), 969-981. doi:10.1016/j.bbi.2008.01.012
- Witkiewitz, K., & Bowen, S. (2010). Depression, craving, and substance use following a randomized trial of mindfulness-based relapse prevention. *Journal of Consulting and Clinical Psychology, 78*(3), 362-374. doi:10.1037/a0019172
- Yarnell, L. M., & Neff, K. D. (2012). Self-compassion, interpersonal conflict resolutions, and well-being. *Self and Identity, 11*(4), 495-513. doi:10.1080/15298868.2011.649545

- Yoshimasu, K., Oga, H., Kagaya, R., Kitabayashi, M., & Kanaya, Y. (2012). Parent-child relationships and mindfulness. *Japanese Journal of Hygiene, 67*(1), 27-36. doi:10.1265/jjh.67.27
- Zeanah, C., Smyke, A., Koga, S., & Carlson, E. (2005). Attachment in institutionalized and community children in Romania. *Child Development, 76*(5), 1015-1028. doi:10.1111/j.1467-8624.2005.00894.x
- Zeidan, F., Johnson, S. K., Diamond, B. J., David, Z., & Goolkasian, P. (2010). Mindfulness meditation improves cognition: Evidence of brief mental training. *Consciousness and Cognition, 19*(2), 597-605. doi:10.1016/j.concog.2010.03.014
- Zelazo, P. D., & Lyons, K. E. (2012). The potential benefits of mindfulness training in early childhood: A developmental social cognitive neuroscience perspective. *Child Development Perspectives, 6*(2), 154-160. doi:10.1111/j.1750-8606.2012.00241.x
- Zero to Three National Center for Infants, Toddlers and Families. (2009a). *Early experiences matter: Guide to improved policies for infants and toddlers*. Retrieved from http://main.zerotothree.org/site/DocServer/Policy_Guide.pdf?docID=8401
- Zero to Three National Center for Infants, Toddlers and Families. (2009b). *Informing policy choices about infants and toddlers*. Retrieved from <http://main.zerotothree.org/site/DocServer/DataMar5Singles.pdf?docID=7881>
- Zgierska, A., Rabago, D., Chawla, N., Kushner, K., Koehler, R., & Marlatt, A. (2009). Mindfulness meditation for substance use disorders: A systematic review. *Substance Abuse, 30*(4), 266-294. doi:10.1080/08897070903250019

Appendix A

Mindfulness Training Session Outlines

Session 1

- Described in detail in Chapter 4

Session 2

- Opening invitation to participate
- Recap of previous week's homework – sharing experiences
- Discussion – Review meaning of mindfulness and mindful parenting
- Chair Yoga and gentle standing poses (handout with drawings and directions to take home)
- Five minute mindfulness meditation
- Closing
- Homework:
 - Wake-up in the morning and set the intention of paying attention to what's really important in the present moment without making judgments: being connected with our kids
 - 5 minutes of quiet breathing meditation each day. Each time your mind wanders come back to paying attention to your breath.
 - Chair yoga at least three times this week

Session 3

- Opening invitation to participate
- Recap of previous week's homework – sharing experiences
- Body scan
- Closing

Homework:

- Wake-up in the morning and set the intention of paying attention to what's really important in the present moment without making judgments: being connected with our kids
 - Alternate breathing and yoga
 - 5 minutes of quiet breathing meditation every other day. Each time your mind wanders come back to paying attention to your breath.
 - Chair yoga on days you don't do breathing meditation

Session 4

- Discuss and practice mindful eating during dinner
- Opening invitation to participate
- Recap of previous week's homework – sharing experiences
- 10 minutes mindfulness meditation

- Closing
- Homework
 - Wake-up in the morning and set the intention of paying attention to what's really important in the present moment without making judgments: being connected with our kids
 - Use your opposite hand to brush your teeth everyday and for a few bites at meals
 - Sit and eat for one meal/snack each day ... no other distractions ... just eat
 - 5 minutes of quiet meditation every day. Each time your mind wanders come back to paying attention to your breath.

Session 5

- Opening invitation to participate
- Recap of previous week's homework – sharing experiences
- Yoga
- Guided Lovingkindness meditation
- Closing
- **Homework**
 - Awareness of Mindful Parenting Events
 - Breathing meditation as many days this week as you can for 10 minutes. Try for every day.

Session 6

- Opening invitation to participate
- Recap of previous week's homework – sharing experiences
- Guided meditation – Seeing the world from your child's point of view.
- 10 minutes mindfulness meditation
- Closing
- Homework
 - At least once every day imagine – What is this moment like from my child's or grandchild's point of view?
 - Practice one moment of mindfulness with your child(ren) each day
 - 10 minutes of quiet breathing meditation or lovingkindness meditation every day.
 - Each time your mind wanders come back to paying attention to your breath.

Week 7

- Opening invitation to participate
- Recap of previous week's homework – sharing experiences
- Guided meditation – Seeing the world from your child's point of view.
- Contemplate “When Singing, Just Sing: Life As Meditation” poem (Narayan Liebenson Grady)
- 10 minutes mindfulness meditation
- Closing

- **Homework**
 - Awareness of Mindful Parenting Events
 - Practice one moment of mindfulness with your child(ren) each day
 - 10 minutes of quiet breathing meditation or lovingkindness meditation every day.
 - Each time your mind wanders come back to paying attention to your breath.

Session 8

- Combine elements from all of the previous session and practice throughout parenting group meeting
- Mindful eating
- Practicing awareness to vision board activity staying in the moment
- Being aware of times when your attention wanders somewhere else ... when we're thinking about something that happened in the past ... future
- Paying attention to feelings
- Opening invitation to participate
- Recap of previous week's homework – sharing experiences
- Chair yoga
- 10 minute loving kindness meditation
- Contemplate: Mindfulness is like growing seeds. You can't make a seed grow. All you can do is provide warmth, water, and soil, and then be patient.
- Closing
- **Homework**
 - Continue to practice ...

Appendix B

Five Facet Mindfulness Questionnaire

Description:

This instrument is based on a factor analytic study of five independently developed mindfulness questionnaires. The analysis yielded five factors that appear to represent elements of mindfulness as it is currently conceptualized. The five facets are observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience.

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes your own opinion of what is generally true for you.

1. Never or very rarely true
2. Rarely true
3. Sometimes true
4. Often true
5. Very often true

1. When I'm walking, I deliberately notice the sensations of my body moving.	
2. I'm good at finding words to describe my feelings.	
3. I criticize myself for having irrational or inappropriate emotions.	
4. I perceive my feelings and emotions without having to react to them.	
5. When I do things, my mind wanders off and I'm easily distracted.	
6. When I take a shower or bath, I stay alert to the sensations of water on my body.	
7. I can easily put my beliefs, opinions, and expectations into words.	
8. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.	
9. I watch my feelings without getting lost in them.	
10. I tell myself I shouldn't be feeling the way I'm feeling.	
11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.	
12. It's hard for me to find the words to describe what I'm thinking.	
13. I am easily distracted.	

-
14. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.
-
15. I pay attention to sensations, such as the wind in my hair or sun on my face.
-
16. I have trouble thinking of the right words to express how I feel about things
-
17. I make judgments about whether my thoughts are good or bad.
-
18. I find it difficult to stay focused on what's happening in the present.
-
19. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.
-
20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.
-
21. In difficult situations, I can pause without immediately reacting.
-
22. When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words.
-
23. It seems I am "running on automatic" without much awareness of what I'm doing.
-
24. When I have distressing thoughts or images, I feel calm soon after.
-
25. I tell myself that I shouldn't be thinking the way I'm thinking.
-
26. I notice the smells and aromas of things.
-
27. Even when I'm feeling terribly upset, I can find a way to put it into words.
-
28. I rush through activities without being really attentive to them.
-
29. When I have distressing thoughts or images I am able just to notice them without reacting.
-
30. I think some of my emotions are bad or inappropriate and I shouldn't feel them.
-
31. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.
-
32. My natural tendency is to put my experiences into words.
-
33. When I have distressing thoughts or images, I just notice them and let them go.
-
34. I do jobs or tasks automatically without being aware of what I'm doing.
-

-
35. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.
-
36. I pay attention to how my emotions affect my thoughts and behavior.
-
37. I can usually describe how I feel at the moment in considerable detail.
-
38. I find myself doing things without paying attention.
-
39. I disapprove of myself when I have irrational ideas.
-

Scoring Information:

Observe items:

1, 6, 11, 15, 20, 26, 31, 36

Describe items:

2, 7, 12R, 16R, 22R, 27, 32, 37

Act with Awareness items:

5R, 8R, 13R, 18R, 23R, 28R, 34R, 38R

Non-judge items:

3R, 10R, 14R, 17R, 25R, 30R, 35R, 39R

Non-react items:

4, 9, 19, 21, 24, 29, 33

Reference:

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*, 27-45.

Appendix C

Experiences in Close Relationships Scale

Each question is scored on a 7-item Likert scale. Odd questions relate to the avoidance dimension ($\alpha = .94$) whilst even questions relate to the anxiety dimension ($\alpha = .91$). The symbol (R) indicates the score is reversed for this item.

1. I prefer not to show a partner how I feel deep down.
2. I worry about being abandoned.
3. I am very comfortable being close to romantic partners. (R)
4. I worry a lot about my relationships.
5. Just when my partner starts to get close to me I find myself pulling away.
6. I worry that romantic partners won't care about me as much as I care about them.
7. I get uncomfortable when a romantic partner wants to be very close.
8. I worry a fair amount about losing my partner.
9. I don't feel comfortable opening up to romantic partners.
10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.
11. I want to get close to my partner, but I keep pulling back.
12. I often want to merge completely with romantic partners, and this sometimes scares them away.
13. I am nervous when partners get too close to me.
14. I worry about being alone.
15. I feel comfortable sharing my private thoughts and feelings with my partner. (R)
16. My desire to be very close sometimes scares people away.
17. I try to avoid getting too close to my partner.
18. I need a lot of reassurance that I am loved by my partner.
19. I find it relatively easy to get close to my partner. (R)
20. Sometimes I feel that I force my partners to show more feeling, more commitment.
21. I find it difficult to allow myself to depend on romantic partners.
22. I do not often worry about being abandoned. (R)
23. I prefer not to be too close to romantic partners.
24. If I can't get my partner to show interest in me, I get upset or angry.
25. I tell my partner just about everything. (R)
26. I find that my partner(s) don't want to get as close as I would like.
27. I usually discuss my problems and concerns with my partner. (R)
28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
29. I feel comfortable depending on romantic partners. (R)
30. I get frustrated when my partner is not around as much as I would like.
31. I don't mind asking romantic partners for comfort, advice, or help. (R)
32. I get frustrated if romantic partners are not available when I need them.

33. It helps to turn to my romantic partner in times of need. (R)
34. When romantic partners disapprove of me, I feel really bad about myself.
35. I turn to my partner for many things, including comfort and reassurance. (R)
36. I resent it when my partner spends time away from me.