Alma Mater Studiorum – Università di Bologna

DOTTORATO DI RICERCA IN

SCIENZE PSICOLOGICHE

Ciclo XXIX

Settore Concorsuale di afferenza: 11/E4

Settore Scientifico disciplinare: M-PSI/08 Psicologia Clinica

REPRESENTATIONAL AND DYNAMIC-MATURATIONAL MODELS OF ADULT ATTACHMENT INTERVIEW (AAI) CODING SYSTEMS COMPARED

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Esame finale anno 2017

ACKNOWLEDGEMENT

CONTENTS

Part 2

INTRODUCTION

The research project that I am going to present regards the Attachment theory, in particular it deals with tools used to assess adult Attachment.

The Attachment theory, proposed by British psychoanalyst John Bowlby in the mid-twentieth century (Bowlby, 1951, 1969, 1973, 1979, 1980, 1988), has emerged as a new scientific paradigm characterized by original theoretical statements, assessment methods, problem descriptions, preventions and treatments interventions. The success of this theory, which integrates psychoanalytic perspective with research data developed in different scientific fields, is related to its compatibility with different models and application fields (i.e. Infant Research, Developmental Psychology, neuropsychiatry, adult psychiatry, couple and family psychology). In recent years, the researches about Attachment theory are further increased, reaching the point that the 70% of clinical psychological studies are carried out considering this model (Baldoni, 2013a; Cassidy & Shaver, 2008; Fraley & Roisman, 2014).

However, these studies differ in the method of Attachment assessing. In research on Attachment, the most commonly used assessment instrument are the self-report questionnaires, even though the scientific community is unanimous in defining the precise limits of validity of these tools (Fraley & Spieker, 2003; Fraley & Waller, 1998; Haltigan, Roisman & Haydon, 2014; Hesse, 2008; Obegi & Berant, 2009; Roisman, Fraley & Belsky, 2007; Roisman et al., 2007).

The *Adult Attachment Interview* (AAI) (George, Kaplan & Main, 1984-1996) is certainly considered the first instrument and the more valid for adult Attachment assessment, but its diffusion in areas of research is hampered by the high cost and by the economical, administration and codification time. The most used system for AAI coding is the M&G model, developed by Mary Main at the Berkley University, California (Main, Goldwyn & Hesse, 1982-2008). Patricia Crittenden (1994, 1999, 2008a, 2008b, 2015a, 2015b; Crittenden & Landini, 2011), following her study *Dynamic-Maturational Model of Attachment ad Adaptation* (DMM), proposed an alternative encoding model of the AAI and a new classification of Adult Attachment, based on Ainsworth classifications and modified and improved with respect to the studies of Main, Goldwyn, and Hesse.

These two coding systems represent the most important coding system for assessing adult attachment in the research field and in the clinical applications. However, both systems have point of strengths and weaknesses. In particular, as already noted by some researchers (Bakermans-Kranenburg & van IJzendoorn, 2009; Iyengar et al., 2014), the M&G method loses much of its capacity to discriminate clinical population and most of the clinical subjects fall into the *Unresolved/disorganized* (U/d) pattern and Cannot Classify (CC) pattern, which becomes a sort of garbage category for most of mental health problems.

In the DMM, the *Unresolved/disorganized* (U/d) and Cannot Classify (CC) patterns are not taken in consideration, replaced by the specific organized patterns, which discriminate in a better way psychological process in mental health disorders. However, the increased complexity of this model produce some problems of reliability limiting its diffusion (Shah & Strathearn 2014).

The first part of my thesis is dedicated to the theory, in particular to the Attachment theory, the M&G model and the DMM model.

The first chapter of this thesis outlines the basics of Attachment theory to create the theoretical framework of the thesis. I will focus on the various assessing models of adult attachment.

In the second chapter, I will describe the Adult Attachment Interview (AAI), retracing the development during the years. The AAI is the most valid instrument for adult attachment assessment.

The third chapter underlines the features of the Main & Goldwyn model of AAI coding. This is the most used system for AAI coding and this chapter underlines the development of this model from the 1982 until the present days.

Chapter four analyzes the Dynamic-Maturational Model (DMM), which proposes a new classification of adult attachment. The chapter describes the development of this model, the main patterns and the principal modifiers of this complex model.

In chapter five I analyze the principals difference between the two models, highlighting their strengths and weaknesses of each models.

The second part of this thesis is dedicated to my doctorate research. The aim of the research is to compare the M&G and the DMM as different AAI coding systems, exploring their ability to discriminate the attachment security, the high-risk pattern and the relevance of unresolved losses or traumas in the subjects. 90 AAI administered to a couple of parents were coded with both method.

Chapter sixth is focused on the research hypothesis: a comparison between two different methods of adult attachment assessment.

Chapter seven I explain the methodology used in my study, describing sample, tools and working plan.

In chapter eighth I present the results of the research, using table and graphics.

Chapter nine is dedicated to the discussion of the emerged data.

Chapter ten is dedicated to the conclusions.

Part 1

1. ATTACHMENT THEORY

Attachment theory as developed by Bowlby (1969, 1973, 1980) is essentially a spatial theory (Holmes, 1993).

However, the attachment relationship becomes extremely complex and moves in time from one spatial and physical to the emotional and relational with its purpose of producing an immediate proximity to an affectively important figure. From the Evolutionism perspective, this mechanism allows to the children to get protection from predators and dangers in broad terms. Then, if maintain proximity is considered a basic need, attachment behavior can be seen as a set of strategies to maintain optimal proximity. A child maintains the neighborhood with his mother through a complex system of communication and behaviors, increasing his chances of survival. Attachment behaviors, such as smiling, crying, babbling, vocalizing and the approach are normal reactions to a threat. If the mother reply to this behavior, they establish a system of mutual feedback and homeostasis.

Organized patterns of attachment behaviors emerge in each species in a relatively fixed developmental period (sensitive period): in humans, this occurs in the second half of the first year of life. In the first six months, the reporting needs of the child is innate and respond to the immediate stimulations. In this period of pre-attachment proximity is possible by the anticipation of the needs of the child by the parents and by their sensitivity to capture small signals. In this phase, in which the child reacts to human contact in intense and indiscriminate way, is fundamental to receive a reinforcement by the parents. The smile of a child evokes a smile of mirroring in the mother, when she responds smiling the child continues to smile and so on (Holmes, 1993).

At this stage of transition, the reinforcement and amplification reactions of the child by the parents allow a first organization of attachment behavior. Around the third month, the child discriminates more, listens and reacts differently to the voice of his mother, crying in a different way if she goes away, accepts it differently and begins to raise his arms towards her to get caught up in her arms. If the mother responds to these signals, we establish a system of mutual feedback and homeostasis. This is the beginning of a process of mutual understanding that, if maintained, leads to the development of Reflective Function (Fonagy, 2001, Fonagy, Gergely & Target, 2008). The Reflective

Function is the ability to recognize and consider the own and the other moods, needs and mental state and this is the basis for a secure attachment relationship.

The parental sensitivity and the reflective function are the major determinants on infant development and security (Fonagy et al, 2002).

Although Bowlby (1973, 1980) originally described the role of physical proximity for attachment motivations, he arrives to under light that the process of communication is itself a key form of proximity. He focused on a kind of communication as the main process by which a secure attachment is established communication characterized by openness, sensitivity, and responsiveness. According to Bowlby, the essence of the experience that formed a secure attachment is to be communicatively coordinated with someone who can take care of us and of helping us in the way that we needed to be taken care of and helped. Emotional availability was the key. The mere physical proximity was not enough. Attachment theory speaks to the essence of what is most evolved and most human about people—the importance of relationships and communication in their lives.

One of Bowlby's most evocative terms for a secure attachment was to describe it as the experience of having a trusted companion (Bowlby, 1973). He described this experience in terms of the presence of four components of an attachment relationship: proximity maintenance, separation distress, a secure base, and a safe haven (Bowlby, 1969):

1. *Proximity seeking* means that the child seeks to maintain emotional access to and coordination with the attachment figure, so that the attachment figure will be helpfully responsive to the child. Although the word proximity suggests physical nearness, Bowlby (1973) meant emotional availability and responsiveness. Proximity in Bowlby's meaning includes the availability of truthful, accurate communication with the attachment figure and the assurance that the attachment figure will understand and will respond in a sensitive way.

2. *Separation protest* as a central concept in attachment theory was developed by Bowlby's observations of the distress and difficulties of children who were separated from their caregivers—for example, by the hospitalization of children in an area that sharply limited the access of parents to the sick child (Bowlby & Robertson, 1952).

3. *A secure base* means that the children have a sense of the attachment figure as reliably available, responsive and capable, so that they feel free and safe in exploring and learning about the world. In an optimal relationship, children feel and know that if they become distressed or afraid, their attachment figure will be there to help them (Bowlby, 1988).

4. The attachment function of *safe haven* means that when children are distressed or frightened they can retreat to their caregiver as a haven of safety and that they experience a sense of protection and security when they do it (Bowlby, 1979).

The character and quality of a particular attachment relationship depend on the way in which each of these components exists and operates within that relationship. When these processes are operating in a strongly positive way, they create the experience of felt security that is a hallmark of secure attachment (Sroufe & Waters, 1977). When they are operating in a sub-optimal way, they define the experiences of non-secure attachment.

Therefore, the parent-child attachment systems may be seen as an adjustment of the distance continuously controlled (Byng-Hall, 1980) and for this reason are characterized by many opportunities and also by various problems. For example, the anxious parent can inhibit exploratory behavior of his child, making him feel stifled and repressed, while the neglectful parent may inhibit the exploration because it fails to provide a secure base resulting in the child a feeling of anguish and abandonment.

1.1. Internal Working Models (IWM)

At the age of 6-7 months, the child begins to show anxiety for the stranger: in the presence of an unknown person becomes silent and clings to his mother. It is at this stage of child development that begin to form Internal Working Models (IWM) (Bowlby, 1969) that are affective and cognitive models, as the organization in internal scales of the representations of the Self, the attachment figures and their ways of relating (Bowlby, 1969, 1973, 1979).

Bowlby was already familiar with the internal and representative world of Freud (1940) and with the ideas of the internalized relations of Klein (1932), Fairbairn (1952) and Winnicott (1958). In the development of the concept of the IWM was strongly inspired by the work of Kenneth Craik (1943) who developped the concept of mental

models related to the mind which forms models of reality and uses them to predict similar future events.

The IWM are generalized patterns that contain different aspects of a person life:

1. Self-representation
2. Representation of attachment figures
3. Representation of the quality of relationships

The main function of such models is to serve as a basis to:

1. Recognize, interpret and give meaning to the new relational events;
2. Ability in making predictions about how the partner will respond in the course of the report, including consideration of environmental changes;
3. Ability in facing the present situations using knowledge of past events in order to choose an optimal mode of action.

To make this possible, the individuals must have the access to accurate information about their previous experience and must be able to make generalizations. The IWM are related to cognitive development and abilities of the individual use of memory systems. In fact, they start to take shape around the end of the first year of life, when, according to the evolutionary theory of Piaget (1952, 1954), the child has acquired the object constancy and the rudiments of language.

Therefore, the representations of attachment are structured in relation to the behavior of attachment figures. In this sense, although the main evidence concerning the relationship with the mother (Ainsworth et al., 1978; Belski, Rovine & Taylor, 1984; Egeland & Farber, 1984; Grossmann et al., 1985), the theory is shifting from *mono-tropisms* (the tendency to have a single attachment figure) (Bowlby, 1951), to the idea of multiple attachments and attachment bonds with several adults. In fact the child seems to form attachment bonds and therefore IWM connected also to the father figure and other figures who have an important role in his relational world (Fox, Kimmerly & Shafer, 1991; Cox et al., 1992; Crittenden, 1994; Parke et al., 1997, Baldoni, 2005, 2010a, 2010b). Initially those models related to different attachment figures are independent of each other. During the development thanks to the growing cognitive abilities, including mnemonic, the representations of the different attachment figures tend to be integrated together through solid connections, forming a generalized Internal Working Model (Crittenden, 1994).

However, these conceptualizations not always have a positive evolutive value: sometimes they are dysfunctional and acquired through preconceived generalizations

from their parents. Relational modes that are expressed through physical or verbal expressions like "I punish you for your own good, because you are bad", if repeated constantly over the time, can be introjected and lead to develop an image of the parent as a wonderful person and of itself as an individual not worthy to receive love by the others. This create a detriment to the realistic image of a parent refusing or not responsive to the needs of the child and of a self that is looking for love influenced by parental behavior (Crittenden, 1994).

1.2. Assessment of infant attachment

"It is now clear that not only the children, but also human beings of all ages are extremely happy and able to externalize their skills with the best possible advantage when they are confident that behind them there are one or more persons that they can help in case of difficulty. The person trusted provides a secure base on which to rely in order to act..."
(Bowlby, 1973, p.359)

Since its conception, attachment theory is a model of human development that covers the whole range of life. Using the words of Bowlby's attachment in humans plays "*a vital role ... from the cradle to the grave*" (Bowlby, 1969, p.208).

Infant-mother attachment, as initially conceptualized by John Bowlby (Bowlby 1969), describes the quality of the relationship between a caregiver and the infant. Bowlby conceptualized infancy as a period of helplessness and vulnerability, in which the child is dependent on the caregiver to meet his physical and emotional needs. His seminal work in attachment theory was grounded on the evolutionary basis that the attachment behaviours of a child serve to bring him into closer proximity to his attachment figure with the aim to obtain comfort, safety, security and protection when distressed or threatened.

Starting from the conceptualizations of Ainsworth (Ainsworth et al., 1978) attachment is considered in a systematic way as an enduring emotional bond that can serve as a secure base to ensure emotional support and support for autonomy. For this reason, it is retained of central importance in adolescents and adults (Shah & Strathearn, 2014).

Mary Ainsworth built a tool for assessment of attachment in children between 10 and 18 months of age, the *Strange Situation* (Ainsworth & Witting, 1969; Ainsworth et al., 1978), with the aim to observe, "measure" and standardize individual differences. Ainsworth expanded Bowlby's theoretical work developing a classification system to describe the individual differences in patterns of infant attachment behavior (Tab. 1.1.) (Ainsworth et al. 1978). Her data from the first year of life indicates that infant patterns of attachment were tied to the quality of maternal "sensitive responsiveness" to infant distress during the first year of life.

This method of evaluation is based on the concept to "secure base" (Bowlby, 1988), the degree of protection and security that parents can give to their child to enable them to explore the environment, knowing that in the event of a threat or danger the child can rely on the parents. In other words, the need of Parents to be "sensitive and understanding" and the need of the child to have recourse to the parents in case of danger. The key of secure attachment based on a good secure base is an active and reciprocal interaction between mother and child (Rutter, 1981), which provides not only the mere physical proximity, but also quality of relationships.

Table 1.1. Summary of episodes of the Strange Situation procedure
(Ainsworth et al. 1978: 37)

Episode	Persons present	Duration	Brief description of action
1	Mother, baby, & observer	30 sec.	Observer introduces mother and baby to experiment room and leaves them alone.
2	Mother & baby	3 min.	Mother is a nonparticipant while baby explores; if necessary, play is stimulated after 2 minutes.
3	Stranger, mother, & baby	3 min.	Stranger enters. First minute: stranger is silent. Second minute: stranger converses with mother. Third minute: stranger approaches baby. After 3 minutes mother leaves the room discreetly.
4	Stranger & baby	3 min. or less	First separation episode: Stranger behavior is oriented to that of the baby.
5	Mother & baby	3 min. or more	First reunion episode: Mother greets and/or comforts baby,

			then tries to settle him again in a play. Mother leaves again, saying 'bye-bye'.
6	Baby alone	3 min. or less	Second separation episode.
7	Stranger & baby	3 min. or less	Continuation of second separation. Stranger enters and gears her behavior to that of baby.
8	Mother & baby	3 min. or more	Second reunion episode: Mother enters, greets baby then picks him up. Meanwhile stranger leaves the room discretely.

1.3. ABC classification system

The classification system of Mary Ainsworth was based on infant and mother behavior during the Strange Situation procedure (SSP), an observational assessment involving a series of introductions, separations and reunions, with the aim to activate the infant attachment system (Ainsworth *et al.* 1978).

The quality of the infant interactive behavior towards the caregiver, after two episodes of separation and reunion, were coded on 7-point Likert scales for the presence of the following behaviors: proximity and contact seeking, contact maintaining, resistance, avoidance, seeking behaviors and distance interaction. She later clustered these patterns of dyadic interaction into three categories: Type A (avoidant) characterized by avoidance of proximity or interaction with the caregiver during the reunion episodes; Type B (secure) characterized by the infant who actively search proximity or contact with his mother, characterized by little demonstration of resistance or avoidance with the mother, and by the contact with the mother that effectively terminate the distress of the child; and Type C (ambivalent) with the infant demonstrating both "*resistance to*" and "*initiation of*" contact and interaction with the caregiver during the reunion episode (Ainsworth *et al.* 1978).

1.2.1. Type A: avoidant

Infant behavior was labelled as (A) avoidant if they demonstrated conspicuous avoidance of proximity or interaction with the mother in the reunion episodes,

characterized by the infant ignoring behavior towards mother until her return, with limited initiation to seek proximity, interact, or tentative to maintain contact with the mother. If picked up, the infant demonstrated little resistance to being picked up and in a similar way he demonstrated a little tendency to cling to the caregiver. Infants in Type A were characterized by the apparent lack of distress during the separation. If present this lack of distress was more related to the infant being left alone, rather than the caregiver departure (Ainsworth et al. 1978). It was theorized that infants who manifest avoidant attachment had experienced a history of rejecting caregiving, in which the infants signals to their caregivers were rejected. It is believed that the repeated experience of having bids for contact rejected has as results in the infant developing the compensatory defensive mechanism of avoidance, wherein he learns to minimize his bids when distressed, with the hope of maintaining proximity to the caregiver and minimizing her rejection and departure from the infant (Ainsworth,1979).

1.2.2. Type B: secure

Infants were considered securely attached if they demonstrated an interest in seeking proximity or initiating and maintaining contact with the caregiver during the reunion episodes. According to Ainsworth, the hallmark of the securely attached infant was that contact with the caregiver was effective in terminating any distress and the infant was readily able to return to exploration or interactive play with the parent. The securely attached infant neither resisted contact or interaction with the caregiver, nor demonstrated avoidance (i.e. rejection, ignoring or snubbing) of the caregiver in the reunion. If the infant was not distressed in the separation, it was characterized by an affective connection between the infant and caregiver at the time of reunion (e.g. the infant acknowledged the mother return by looking or smiling) (Ainsworth *et al.* 1978). It is believed that infants who were securely attached experienced a history of contingent caregiving, in which their caregivers were consistently responsive to their signals during the first year of life. This history of consistent, sensitive responsiveness at times of infant distress is theorized to be the base upon which the infant develops an internalized representation that his caregiver is accessible and will be responsive to him when he is in need. This consistent responsiveness of the caregiver to the distressed infant signals is retained to be the base for infant security (Ainsworth 1979).

1.2.3. Type C: ambivalent/resistant

Infants were placed in Type C (Ambivalent) if they demonstrated ambivalence to reunion with the caregiver, characterized by a resistant behavior to both contact and interaction in combination with contact and proximity-seeking behavior. The "ambivalent" infant was observed to demonstrate paradoxical behavior in reunion episodes: while the infant did not 'ignore' the mother during the reunion episodes (as did infants in Type A (avoidant), the Type C infant demonstrated behavior that was maladaptive to reunion, characterized by anger or increased passivity (Ainsworth et al. 1978). For the infants who were classified in Type C, it is notable that, although the parent departure caused an extreme distress into the infant, the return of the parent was not soothing or reassuring. It is theorized that ambivalent (type C) attachment had its origins in a history of inconsistent maternal care characterized by "uncertain maternal availability". The infant in Type C had a mother who was neither "consistently responsive" (as is seen with an infant in Type B) nor "consistently rejecting" (as is seen with Type A infants). Rather, the infant in Type C had the difficult paradox derived from the not-knowledge whether his caregiver would be responsive or unavailable. Consequently, the infant's "ambivalent" pattern of behavior emerged because the infant was uncertain about the responsiveness of the mother, he remained close with an increased attachment behaviors, but due to her history of inconsistency, the infant demonstrated an increase monitoring of the caregiver, decreasing the exploratory behavior.

Table 1.2. The Ainsworth Strange Situation Classifications

(Ainsworth & Wittig, 1969)

Attachment classification	Sub-classification	Strange-situation behavior
A		Lower proximity-seeking and contact-maintaining on reunion than B or C, together with some proximity-avoiding behaviors. The infant behavior characterized by attention and affect are integrated in a coherent way to downplay the communication of distress and to keep focus away from the caregiver (e.g. by attention to the toys).
	A1	Lowest proximity-seeking and contact-maintaining on reunion than B or C; strongest proximity- avoiding behaviors.
	A2	Low to moderate proximity-seeking on reunion. Marked proximity-avoiding behaviors.

B		Strong proximity-seeking and contact-maintaining on reunion compared with A. Low contact- resisting compared with C. The infant behavior characterized by attention and affect are integrate in a coherent way, which allows distress to be communicated and assuaged to the caregiver, allowing to the child to calmly return to play.
	B1	Weak proximity-seeking and contact-maintaining. Weaker proximity-avoiding behaviors than A1. Strong communication and affective sharing with their caregiver from a distance. Conceptualized as intermediate between A and B infants.
	B2	Low to moderate proximity-seeking and marked proximity-avoiding on first reunion. But later strong proximity-seeking and contact-maintaining on second reunion.
	B3	Strong proximity-seeking and contact-maintaining on reunion. No contact-resisting or proximity- avoiding.
	B4	Some proximity-seeking and contact-maintaining prior to separation from the caregiver. Strong proximity-seeking and contact-maintaining on reunion. Some contact-resisting.
C		Marked contact-resisting behavior. The infant behavior characterized by attention and affect is integrate in a coherent way, which strongly communicates their distress and frustration to the caregiver.
	C1	Strong proximity-seeking and contact-maintaining on reunion. Strong contact-resisting behavior punctuates the contact maintaining, as the child switches between communicating distress and desire for contact, between anger and desire to be put down.
	C2	Weak proximity-seeking but moderate to strong contact-maintaining, particularly on second reunion. Moderate contact-resisting.

1.2.4. Type D (Disorganized/Disoriented)

In Ainsworth's original classification system, a percentage of infants were unable to be classified in the original ABC classification system (Sroufe & Waters, 1977). Mary Main expanded Ainsworth's original classificatory system with her addition of a fourth category called "Disorganized/Disoriented" attachment in infancy (Type D) (Main & Solomon 1990). This ABC+D approach to expanding attachment theory was based on detailed observation of the Strange Situations of Main's Berkeley sample of infants from middle and upper middle class families, as well as other samples of varying risk due to low income and family stress, provided by interested researchers (Main & Solomon,

1990). Infants who displayed anomalous behaviors or behavior that did not fit the ABC categories were identified. After careful study, most were classified in "Disorganized/Disoriented" category (Main & Solomon, 1990).

Main theorized that disorganized infant attachment had its origins in maladaptive early caregiving experiences, characterized by threatening parental behavior toward the infant, or by frightened parental behavior in response to the infant. Main proposed that having a frightened or frightening mother let the infant to organize a coherent pattern of attachment and the result was an incoherent or disorganized strategy (Main 1995, 1996). Disorganized/disoriented infants appeared to have no consistent strategy for managing attachment distress; they display contradictory behaviors suggesting that the parent is in the same time a threat and a source of comfort (Main & Solomon, 1990).

1.2.5. Type A/C (Mixed pattern)

Crittenden (1997) expanded the ABC model by adding an organized A/C classification. A/C referred to infants who used both Type A and Type C strategies. Despite Crittenden's assertion that A/C is atypical but organized, the A/C classification has since been considered a type of disorganization by researchers working in the M&G model (van Ijzendoorn, 1995). Crittenden's model evolved into the Dynamic-Maturational Model (DMM) of attachment and adaptation (Crittenden, 2008a). The A/C pattern was derived to fit concurrent evidence of attachment, specifically child strategies for maximizing safety and comfort in highly stressed families (Spieker & Crittenden, 2009).

1.4. Assessment of Adult Attachment

The assessment of adult attachment is a complex process that could be influenced in its results by both theoretical model and method. The first tool developed for the assessment of attachment in adult age is the Adult Attachment Interview (AAI), a semi-structured interview about the relationship of the person with their attachment figures from childhood, created in 1984 by Carol George, Nancy Kaplan e Mary Main, at the University of Berkeley, California.

Therefore, is only at this point in the early 80s that the researchers have the tools to be able to demonstrate the possibility that the biography of attachment of the parents may be related to the quality of the attachment of children (Mikulincer & Shaver, 2007).

Inspired by the AAI, many researchers have sought to develop instruments of attachment simpler but equally effective for the evaluation of attachment (Barone & Del Corno 2007). Particularly thriving was the development of self-report questionnaires, which proved to be simple not only to be administered but also to decode. These instruments were soon established in the field of research, where, unlike the AAI, are much less expensive, both in terms of cost and time (Holmes & Farnfield, 2014).

Considering the studies concerning the attachment in adolescence and adulthood (Cassidy & Shaver, 2008, Hesse 2008), it is clear how they are developed, according to two approaches that mainly diverged for the different focus: one on the relationship with parents and the other on the romantic relationships (Bartholomew & Horowitz, 1991). However, in a complete record should not be overlooked an element of fundamental importance which cross the two approaches and been focused on the early studies, such as the emotional regulation.

However, the various *self-report* questionnaires used - for example the *Adult Attachment Questionnaire*, AAQ (Hazan, Shaver, 1987), the *Attachment Style Questionnaire*, (ASQ) (Feeney, Noller, Hanrahan, 1994), the *Relationship Questionnaire*, (RQ) (Bartholomew, Horowitz, 1991), the *Parental Bonding Instrument*, (PBI) (Parker, Tupling, Brown, 1979) - have shown several limits of validity, because they do not investigate the unconscious aspects and do not pose the subject under conditions of moderate stress, which are two fundamental operation principles of AAI (Baldoni 2010a; Hesse, 2008; Obegi & Berant, 2009;). They also showed serious problems of correlation with the data of the AAI (Cassidy & Shaver, 2008; Fraley & Waller, 1998).

In conclusion, despite the adult attachment is the subject of study since the early 80s, the evaluation methods are still questionable and classification is not sufficiently shared, varying according to the theoretical model adopted (Brennan, Clark & Shaver,1998; Ravitz et al.2010).

2. THE ADULT ATTACHMENT INTERVIEW (AAI)

The first instrument developed for the assessment of adult attachment was the Adult Attachment Interview (AAI), a semi-structured interview about the relationship of the person with their attachment figures from childhood, created in 1984 by Carol George, Nancy Kaplan e Mary Main, at the University of Berkeley, California.

In 1985, in an article entitled *Security in Infancy, Childhood, and Adulthood: A Move to the Level of Representation*, Main, Kaplan, and Cassidy reported the results of their sixth-year follow-up study of 40 Bay Area children who had been seen with each parent in the Ainsworth's Strange Situation (Ainsworth et al., 1978) at 12 (or 18) months of age. Within that presentation, special emphasis was given to verbatim texts taken from a newly developed Adult Attachment Interview (AAI) (George, Kaplan, & Main, 1984-1996).

During this interview, individuals are asked both to describe their attachment-related childhood experiences and to evaluate the influence of these experiences on their development and current functioning. Main and her colleagues found that transcribed verbatim responses from these interviews could be systematically placed into one of three adult attachment classification categories (Main, 1985).

The AAI requires about an hour and a quarter to be administered. It is video- or audio-recorded and then transcribed verbatim. It utilizes a predefined format, with questions asked in a settled order, accompanied by specific follow-up probes. It normally takes about an hour to be administered and consists of 20 questions (George, Kaplan & Main, 1984-1996). The entire interview is transcribed verbatim, including (timed) pauses, dysfluencies and restarts. The interview opens with a general description of relationships with parents during the speaker's childhood, which is followed by a request for five adjectives that would best represent the relationship with each parent. After the adjectives are provided (first for the mother), the speaker is probed for specific episodic memories that would illustrate why each descriptor was chosen. This process is then repeated for the father and, when applicable, for any other significant attachment figure (e.g., stepfather or nanny). The protocol contains further questions about which parent the speaker felt closer and its reason why; what the speaker did when emotionally upset, physically hurt or ill; and how the parents responded at such times.

The participant is asked about salient separations, possible experiences of rejection and any threats regarding discipline. Then, the speaker is queried regarding the effects of these experiences on his or her adult personality; weather any experiences constituted a significant setback to development; why the parents are believed to have behaved as they did during childhood; and whether there were any persons who did not serve as parenting figures, why they were consider as parent-like during childhood.

To follows a section dedicated to the experiences of loss of significant persons due to death in the speaker's lifetime. Participants are asked to describe how was he the experience due to the occurred death, their reactions to the loss at the time, during any funeral or memorial service they attended, changes in feelings over the time, effects on adult personality, and (where relevant) effects on their behavior with their children. Descriptions of any abuse experiences are also research object. During the close of the interview, speakers are asked about the nature of the current relationship with parents (if they are still living). In addition, they are questioned regarding to how they feel (or imagine they would feel if they had a child) about being separated from their child and how experiences of being parented may have affected responses (or imagined responses) to their own child. Finally, the participant is invited to speculate regarding wishes for its own real or imagined child 20 years from that time.

Table 2.1 offers examples of the questions taken from the AAI protocol devised by George and colleagues (1984- 1996), but omits their follow-up probes.

The central task the interview presents to participants is that of:

1. producing and reflecting on memories related to attachment simultaneously;
2. maintaining coherent, collaborative discourse with the interviewer (Hesse, 1996).

This is not as easy as it might appear, and George and colleagues (1984-1996) have remarked upon the potential of the protocol to "surprise the unconscious." As indicated above, the interview requires the speaker to reflect on and answer a multitude of complex questions regarding its own life history, the great majority of question that the speaker will never have been asked before.

Thereby wide opportunities are provided for speakers to contradict themselves, to find themselves unable to clearly answer, and/or to be drawn into excessively lengthy or digressive discussions of particular topics. In order to maintain a consistent and collaborative narrative, a speaker must not only address the question at hand, but also be

able to remember (and potentially reflect upon) what he or she has already said, in order to integrate the overall presentation as it unfurls.

Table 2.1. Brief précis of the Adult Attachment Interview (AAI)
(Hesse, 2008)

1. To begin, could you just help me to get a little bit oriented to your family-for example, who was in your immediate family and where you lived?
2. Now I would like you to try to describe your relationship with your parents as a young child, starting from as far back as you can remember.
3–4. Could you give me five adjectives or phrases to describe your relationship with your mother/father during childhood? I will write them down, and when we have all five I will ask you to tell me what memories or experiences led you to choose each one.
5. To which parent did you feel closer and why?
6. When you were upset as a child, what did you do and what would happen? Could you give me some specific incidents when you were upset emotionally? Physically hurt? Ill?
7. Could you describe your first separation from your parents?
8. Did you ever feel rejected as a child? What did you do, and do you think your parents realized they were rejecting you?
9. Were your parents ever threatening toward you - for discipline or joking?
10. How do you think your overall early experiences have affected your adult personality? Are there any aspects you consider a setback to your development?
11. Why do you think your parents behaved as they did during your childhood?
12. Were there other adults who were close to you - like parents - as a child?
13. Did you experience the loss of a parent or other close loved one as a child, or in adulthood?
14. Were there many changes in your relationship with your parents between childhood and adulthood?
15. What is your relationship with your parents like for you currently?

To view the 1985 AAI complete text, see Attachment 1.

2.1. AAI applications

Since 1985, the AAI has been increasing and applying in both clinical and developmental research (Fig. 2.1). In a large meta-analysis Bakermans-Kranenburg and van IJzendoorn (2009) estimate that the AAI has been used in more than 200 studies, for a total of about 10500 AAI coded, most of them using M&G criteria.

Figure 2.1. Cumulative number of Adult Attachment Interviews with normal and clinical respondents since 1990. (Bakermans-Kranenburg & van IJzendoorn, 2009)
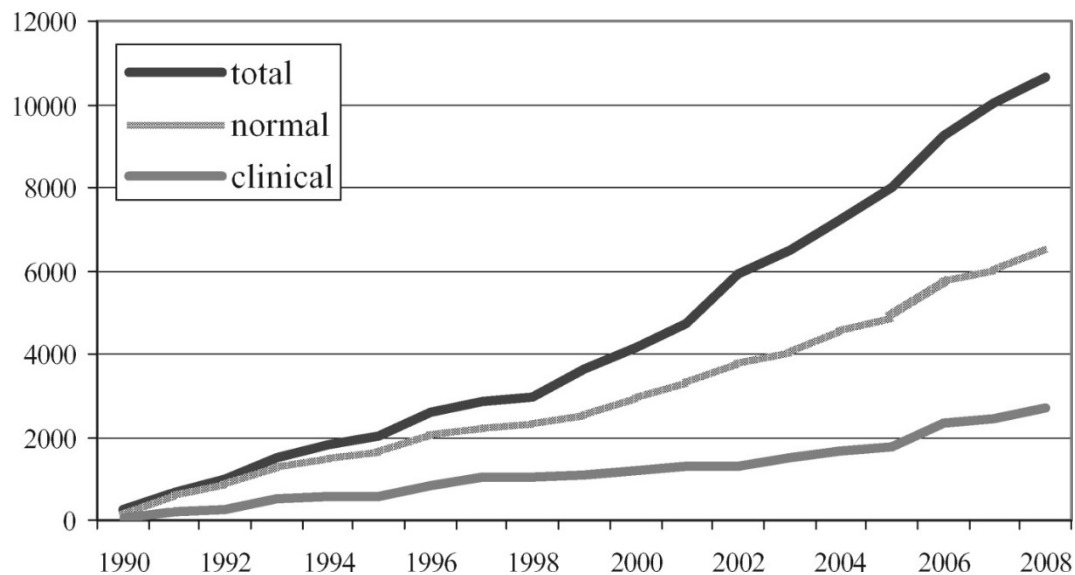
Shaver, Belsky and Brennan (2000) represent the first attempted to compare the results of the AAI with the *self-report* questionnaires, but without any significant correlation. Later studies have dealt with this topic, obtaining similar results: Fraley and Spieker (2003) focused their interesting on the implications of dimensional models of individual differences for attachment theory. The results indicate that variation in attachment patterns is largely continuous, not categorical, and self-report questionnaire are not suitable for assessing this measure. Roisman, Fraley and Belsky (2007) have considered a sample of 504 subjects for the study of Taxometric model, using AAI and self-report questionnaire. 278 secure adults at AAI do not correspond with secure category in questionnaire. In 2007, a meta-analytic review of the associations between self-report measures of attachment and the AAI combined 961 subjects from 1992

(Roisman, et al., 2007): results shows no significant correlation between the two instruments (mean r = .09). Recent studies have demonstrated the validity of the AAI: Haydon, Roisman and Burt (2012) revealed distinctive behavioral correlates of dismissing versus preoccupied states of mind. Haltigan, Roisman and Haydon (2014) examined what precisely AAI measures: the association between insecure subject, coding with AAI, with depression, anxiety and somatic disorder is significant (p<.005).

3. MAIN & GOLDWYN (M&G) CODING SYSTEM

"Despite the fact that experience scores play a role in determining "state of mind" scores and classification, it is not presumed that these retrospective interviews provide a veridical picture of early experiences. It is solely coherence and the ways in which coherence is violated within the text that is assessed and is found predictive of the speaker's behavior in other settings" (Main, Goldwyn, and Hesse, 1982-2008, p. 8).

Adult state of mind is evaluated in association to thought processes in narrative regarding childhood experiences with both caregivers and other parental figures. The AAI permits to assess the presence of a mature cognitive rather than affective elaboration with respect to early attachment experiences.

In early work with Ainsworth's classification system, a percentage of infants were unable to be classified in the original ABC classification system. Sroufe and Waters published one of the first references to the difficulty of classifying infants, in which they identified the behavior of 10 per cent (7 out of 70) of their white, middle-class sample that could not be readily classified into one of Ainsworth's three categories (Sroufe & Waters 1977). Additional work in the 1980s by Main and Weston further identified infants who were "unclassifiable" in the ABC System (Main & Weston 1981), who demonstrated "secure behavior" to both the parent and stranger in reunion episodes, in combination with extreme avoidance and extreme distress throughout the SSP.

3.1. Developmental Pathways

At the same time with the identification of infants who could not be classified in Ainsworth's ABC classification system (Main & Weston 1981), Main expanded her work in attachment to include a focus on parents representational processes and response to the memories. Along with Carol George and colleagues at the University of California at Berkeley, she helped develop the Adult Attachment Interview (AAI) to associate caregiver state of mind with respect to attachment (George, Kaplan & Main, 1985). The coding system for the AAI (Main, Goldwyn & Hesse 1982-2008) was constructed to

maximize the correspondence between AAI classifications and infants' pre-existing SSP classifications based on Main's beliefs in:

1. the transmission of attachment from mother to infant;
2. continuity of attachment across the lifespan (George & Main 1979; Main 1985, 2000).

The AAI was developed as a semi-structured interview, designed to probe for general descriptions and specific memories of relationship with parents. In the AAI, the respondent is asked to provide attachment-related memories from childhood and to evaluate memories from their current perspective (George, Kaplan & Main, 1996). The coding of the AAI transcripts is not based on the participant's description of their childhood experiences, but rather on the coherence of the narrative which probes the effects of the early experiences on current functioning (Van IJzendoorn 1995).

The coding schema of the AAI was developed through the identification of common points in the interview responses of mothers whose infants shared the same attachment classification. Blind coding of AAI interviews using the newly developed Main and Goldwyn method (defined as M&G or ABC+D) revealed matching of SSP coding of security versus insecurity in 75% of cases (Main, Kaplan & Cassidy, 1985).

This model assesses adults on the basis of their mental representations of attachment and is characterized by a classification in four categories: Free/Autonomous (F), Dismissing (Ds), Entangled (E) and Unresolved with respect to trauma or loss (unresolved, U). The first three originate from the A B C patterns described in infancy by Mary Ainsworth in the Strange Situation (Ainsworth et al., 1978), the last category from the Disorganized/Disoriented (D) pattern is described by Main and Solomon (1986) using the same procedure. This coding system has included a set of continuous 9-point scales that assess the current "state of mind with respect to attachment" of the interviewed persons and with respect to attachment figures that compared to the general pattern of discourse.

The AAI was predicated on the adult's current mental representation of childhood experiences and was formulated based on two assumptions:

1. Autobiographical memory is the ongoing reconstruction of one own past considering new experiences (van Ijzendoorn 1995).
2. Idealization of the past, particularly negative childhood experiences, can be traced by studying the form and content of the autobiographical narrative separately (van Ijzendoorn 1995).

3.1.1.   The expansion of Ainsworth's classifications

In her doctoral research, conducted between 1968 and 1973, Main noticed the unclassifiable status of five Strange Situation narratives. As well as the measures required for her doctoral research, Main instructed her coders "to note each time that the toddler did anything which seemed odd to them"; this included "*hand flapping; echolalia; inappropriate affect; and other behaviors appearing out of context*" (Main, 1977, pp. 70-71). She later recalls that "five out of 49 (10.2%) infants in her sample" were found to be "*difficult to classify*": two of these infants were forcedly classified as secure, whereas three "*were informally termed A-C infants within the laboratory*" and classified either as A or C (Main & Solomon, 1990, p. 126). Main noted that two of these infants showed reunion behavior that combined an attempt to approach the caregiver with signs of fear and avoidance.

For these reasons, Main expanded Ainsworth original classificatory system adding a fourth category called "disorganized" attachment in infancy (Type D) (Main & Solomon 1990) as well as "unresolved" and "cannot classify" categories in adulthood (Hesse 1996; Main 2000). Main theorized that disorganized infant attachment had its origins in maladaptive early caregiving experiences, characterized by threatening parental behavior toward the infant, or by frightened parental behavior in response to the infant. Main proposed that having a frightened or frightening mother let the infant to organize a coherent pattern of attachment, and the result was an incoherent or disorganized strategy (Main 1995, 1996). Disorganization was initially described in a normative sample of 12-month-old infants who demonstrated conflicted or anomalous behavior during reunions in the SSP (Main & Solomon 1990).

For Main, the infant's anomalous behavior reflected the lack of a strategy to manage fear associated with the caregiver's frightening behavior: the infant's fear could not be deactivated by a shift in attention, that is Ainsworth's A (avoidant) pattern, nor could it be ameliorated through approaching the caregiver, that is Ainsworth's B (secure) and C (ambivalent) patterns. Furthermore, Main theorized that the caregiver's frightening behavior related to a history of unresolved loss or trauma and was, in fact a maladaptive response to a history of traumatic memories (Main & Hesse 1990).

In addition, following Bowlby (1980), Main proposed that everyone had one enduring "inner working model" (IWM) of attachment. When individuals were not able to form a single model, or when they oscillated among models, it was treated as disorganization. This approach, which is focused on continuity and disorganization, is

described as the ABC+D classification. Anomalous infant behaviors meeting the criteria for *"disorganization"* included:

1. sequential or simultaneous display of contradictory behaviors;

2. misdirected, incomplete or interrupted movements and expression;

3. stereotypies, asymmetrical movements and anomalous postures;

4. freezing, stilling, or slowed movements;

5. evidence of apprehension toward the parent;

6. evidence of disorientation, disorganization or confusion (Hesse & Main 2000).

Disorganized behavior was retained to arise when the infant was markedly frightened by his attachment figure, as characterized by infants with a history of maltreatment (Carlson, 1998; Hesse & Main, 2000; Lyons-Ruth, 1996). The maltreated infant was thought to experience an irresolvable paradox in which his primary attachment figure, who should be his source of protection and safely in the face of danger, was simultaneously the source of threat to the infant and the origin of his fear (Lyons-Ruth 1999). In addition, caregivers who demonstrated frightened behavior in the presence of the infant manifested by the caregiver reacting to the infant as if the infant were the source of threat and danger, contributed to the development of infant disorganization. The caregiver who demonstrated fright in the presence of the infant (as was seen with traumatized parents) sent a signal to the infant, that the caregiver who should be available to protect the infant in the face of danger was instead repelled and frightened by the infant and was unavailable to be a source of safety and protection. The infant is then thought to perceive that he is the reason for the caregiver's distance and is left without an organized strategy to compensate for the caregiver's unavailability, resulting in a disorganized pattern of attachment (Main & Hesse 1990).

3.2. Adult Attachment Interview coding system

The first model of AAI codifying, proposed by Mary Main and Ruth Goldwyn (1984-1998), was later refined with the help of Erik Hesse (Main, Goldwyn & Hesse, 1982-2008). It was formulated to evaluate participants' coherence in their use of language (Main & Goldwyn 1995). The AAI was developed to correlate parents mental representations of attachment-related experiences with the pattern of their infants

behaviors in the SSP. As such, there are notable similarities in the ABC+D classification system between infant and adult patterns of attachment classification: *secure* (B) patterns of infant behavior are similar to *autonomous* (F) patterns of adult representations, *avoidant* (A) patterns of infant attachment are similar to *dismissing* (Ds) patterns of adult attachment, *resistant* (C) patterns of infant attachment mirror *preoccupied* (E) patterns of adult attachment and the disorganization characteristic of D infants is similar to the unresolved/disorganized adults (U) in the AAI. In this way, the patterns of attachment characterized as ABC+D in infancy correspond to the DEF+U patterns of attachment in adulthood.

The term "organized" is rooted in Main's (Main & Hesse, 1990) content that infants in the original three Strange Situation categories differ in flexibility versus inflexibility of attention to:

1. The parent;
2. The inanimate environment.

The capacity for attentional flexibility was ascribed to secure babies because they readily alternate between attachment and exploratory behavior as the SS procedure unfolds, exploring in their mothers presence and exhibiting attachment behavior (e.g. crying, calling) in the mothers absence and again upon reunion (e.g. seeking proximity and contact). Attentional inflexibility was ascribed to avoidant infants, who focus away from the parent and on the toys or surroundings, and to ambivalent/resistant infants who focus persistently on the parent and not focus towards the toys and the surroundings (Hesse, 2008).

Main proposed that the organized AAI categories can also be viewed in terms of attentional flexibility (Main, Hesse & Kaplan, 2005). Thus, attentional flexibility is seen in secure-autonomous parents as they fluidly shift between presenting their attachment-related experiences and responding to the request to evaluate the influence of these experiences (Hesse, 1996). In contrast, attentional inflexibility is observed:

1. In dismissing responses to the AAI in which the linguistic focus is continuously away from past attachment relationship and their influence;
2. In preoccupied AAI texts, in which the focus is persistently, but confusedly, strongly oriented toward attachment relationship and experiences as to prevent appropriate responses to the queries.

However, it should be noted that attentional inflexibility is relatively organized in terms of discourse strategy (Main, Goldwyn & Hesse, 2003).

3.2.1. Grice's Maxims

Although the AAI interviewer adheres to the interview questions and their probes as faithfully as possible, there are two speakers involved in the exchanged. This means that the interview is a conversation as well as a response to a request for a spoken autobiography, permitting its analysis in terms of the extent to which the participants responses approach the Grice's Maxims (Grice, 1975, 1989). Grice proposed an ideally rational, coherent and cooperative conversation. He proposed that these requirements are met if speaking adheres to four specific "maxims" or principles. When these maxims are "violated", the conversation strays from the cooperative, rational idea, but in fact complete and continual adherence is not expected. For a text to be classified as secure-autonomous, coherent, cooperative discourse must simply be relatively well maintained, as compare to that of other conversationalist observed in this context.

Table 3.1. Grice's Maxims for AAI

(Hesse, 2008)

Quality	**"Be truthful, and have evidence for what you say"** This maxim is violated when, for example, a parent is described in highly positive general terms, but the specific biographical episodes recounted subsequently contradict (or simply fail to support) the interviewee adjectival choice. An interview of this kind can also be considered internally inconsistent and internal inconsistency of the kind just described appears most frequently in the text of individual classified as dismissing.
Quantity	**"Be succinct, and yet complete"** This maxim demands conversational turns of reasonable length; neither too short nor too long. By requiring speakers to be sufficiently "complete", Grice was saying that incomplete and excessively short answer are not acceptable. This occurs when, for example, "I don't remember" and/or "I don't know" becomes the response to several queries in sequence, cutting off further inquiry. Excessively terse response occurs most frequently in the texts of individuals classified as dismissing. In term of quantity, Grice also requires that so long as they are complete, responses should be reasonably succinct; consequently, the maxim of (appropriate) quantity can also be violated when a speaker takes excessively long conversational turns. Here the interviewee may hold the floor for several minutes, perhaps providing more unnecessary details. Excessively lengthy responses occur most frequently in the text of individuals classified preoccupied.
Relation	**"Be relevant to the topic as presented"** The maxim of relation or relevance is violated when, for example, queries regarding the childhood relationship with his or her own children. As might be expected, violation of relevance occurs most frequently in the text of individuals classified as preoccupied.

	"Be clear and orderly"
Manner	This Maxim is violated when, for example, speech becomes grammatically entangled, when psychological "jargon" is used, or when vague terms appear repeatedly, or when the speaker does not finish sentences that have been fully started. Violations of manner appear most often in preoccupied texts.

The essence of the AAI scoring and classification system (Main, Goldwyn & Hesse, 2003) amounts to a systematization of the different language uses seen in response to the set questions of the protocol.

3.2.2. *Classification system*

The AAI scoring and classification system was initially focused only on the original three organized classifications and sub-classification together with an accompanying set of continuous rating scales (Main & Goldwyn, 1984-1998).

Characteristics of each transcript were recorded and judgments were made about the speaker's probable experiences with each parent during childhood, together with the speaker's state of mind with respect to his or her attachment history. This state of mind was captured by gradually developed continuous rating scales used to assign secure-autonomous, dismissing or preoccupied classification and later a set of 12 sub-classifications (Hesse, 2008).

The organized categories of AAI (secure, dismissing and preoccupied) are those in which the speaker shows a definitive, essentially singular "strategy" for getting through the interview, whether by "simply answering the questions"; by blocking discourse, whether within or outside of awareness together with refusing to reveal or discuss potentially distressing experience (as dismissing speaker do); by manifesting a confused, unrelenting focus on varying incidents, feelings and relationship aroused by the interview questions (as preoccupied speakers do). When one of these strategies seems to be at work throughout the interview, uninterrupted by a collapse of discourse or reasoning during the discussion of potentially frightening experiences, the transcript is considered as organized (Hesse, 2008).

In early 1990s, a small percentage of transcript failed to meet criteria for placement in one of the three central or organized attachment categories (Main & Hesse, 1990). These configurations named unresolved/disorganized (U/d) and cannot classify (CC) categories were delineated only some years following the inception of the AAI, most likely due to their subtlety and complexity (Main & Solomon, 1990).

3.2.3. M&G-AAI coding scales

The AAI coding is composed of two distinct moments:

1. The content and form of the text are analyzed through the use of evaluation scales. Those scales are a nine-point continuous scale. Every point of each scale is well defined and each scale includes a lengthy introduction explaining what is meant by the construct. These are of two types:

    a) **"Subjective Experience" scale** (5 scales) to evaluate the experiences of attachment in infancy, as reported by the subject. The intent of these scales is to reconstruct the story life of the person and his experiential background with respect to attachment. Those scales assign scores for central aspects of inferred loving versus unloving behavior of each parenting figure during the interviewee's childhood.

    b) **"State of Mind" scales** (8 scales) to assess the state of mind of the subject at the present time, in reference to the representations of experiences related to attachment and to the organization of the relevant information in relation to it (table 3.2.).

2. In the final step of interview analysis, a coder determines the applicability of all features associated with each major classification to the transcript in hand. The interview is analyzed again, in order to find a final classification of the subject attachment. The final classification is based on the interview in terms of mental organization with respect to attachment and encoding provides for the allocation in a major category of attachment. The coder considers:

    a) The scale scores configurations;

    b) The Gricean discourse characteristic;

    c) Some of the feature that point to particular AAI classification.

    In sum, features leading to a particular categorical placement, as delineated by the "top-down" analysis, should dovetail with the classification derived from the "bottom-up" configurations produced by the "state of mind" scales. If, after checking and re-checking, the classification reached by the configuration of "state of mind" scale scores continues to conflict with that by the "top-down" analysis, the coder considers "cannot classified" as the first assignment for the transcript (Main, Goldwyn & Hesse, 1982-2008).

Table 3.2. "State of mind" Scales used in the AAI

(Hesse, 2008)

Coherence of transcript	For the highest rating, the speaker exhibits a "steady and developing flow of ideas regarding attachment". The person may be reflective and slow to speak with some pauses and hesitations, or speak quickly with a rapid flow of ideas; however, the speaker seems at ease with the topic, and his thinking has a quality of freshness. Although verbatim transcript never look like written narratives, there are few significant violations of Grice's maxim of quantity, quality, relation and manner. The reader has the impression that overall this text provides a singular as opposed to a multiple model of the speaker's experience and their effects. (Main, 1991). High score in this scale is associated with the secure/autonomous adult attachment category.
Metacognitive monitoring	For the highest rating, evidence of active monitoring of thinking and recall is evident in several places within the interview. Thus, the speaker may comment on logical or factual contradictions in the account of his history, possible erroneous bias and/or the fallibility of personal memory. Underlying metacognitive monitoring is active recognition of an appearance-reality distinction (the speaker acknowledges that experiences my not have been as they are being presented); representational diversity (e.g., a sibling may not share the same view of the parents); and representational change (e.g., the speaker remarks that what is said today might not have been said yesterday). This characteristic is related with secure/autonomous adult attachment.
Idealization of the primary attachment figure(s)	This scale assesses the discrepancy between the overall view of the parent taken from the subject speech at the abstract or semantic level and the reader's inferences regarding the probable behavior of the parent. Since the reader has no knowledge of the speaker actual history and discrepancies come from within the transcript itself. For the highest rating, there is an extreme lack of unity between the reader's estimate of the speaker's probable experience with the primary attachment figure(s) and the speaker's positive to highly positive generalized or "semantic" description. Despite an inferred experience of, for example, extreme rejection or even abuse, the portrait of the parent is consistently positive, and gratuitous praise of the parents may be offered (e.g., references to "wonderful" or "excellent" parents). In this scale, high score is associated with the dismissing adult attachment category.
Insistence on lack of memory for childhood	This scale assesses the speaker insistence upon her inability to recall her childhood, especially as this insistence is used to block further queries or discourse. The scale focuses upon the subject's direct references to lack of memory ("I don't remember"). High ratings are given to speakers whose first response to numerous interview queries is "I don't remember", especially when this reply is repeated or remains firmly unelaborated. Low scores are assigned when speakers begin a response with a reference to lack of memory, but then actively and successfully

	appear to re-capture access to the experience they have been asked to describe. High score in this scale is associated with the dismissing adult attachment category.
Active, derogating dismissal of attachment-related experiences and/or relationship	This scale deals with the cool, contemptuous dismissal of attachment relationship or experience and their import, giving the impression that attention to attachment-related experience (e.g., a friend's loss of a parent) or relationship (those with close family members) is foolish, laughable, or not worth the time. High ratings are assigned when a speaker makes no effort to soften or disguise his dislike of the individual or of the topic. In this way – in keeping with the apparent intent of casting the individual (of topic) aside ("My mother? A nobody. No relationship. Next question?") – the sentence used are often brief and the topic is quickly dropped. This characteristic is related with dismissing adult attachment.
Involved/involving Anger expressed toward the primary attachment figure(s)	Accurate ratings of this scale depend upon close attention to the form of the discourse in which anger toward a particular attachment figure is implied or expressed. Direct description of angry episodes involving past behavior (I got so angry, I picked up the soup bowl and threw it at her") or direct description of current feelings of anger (I'll try to discuss my current relationship with my mother, but I should let you know I'm really angry at her right now") do not receive a rating on the scale. High ratings are assigned to speech that includes, for example, run-on, grammatically entangled sentences describing situations involving the offending parent; subtle effort to enlist interviewer agreement: unlicensed, extensive discussion of surprisingly small recent parental offenses; extensive use of psychological jargon (e.g., "My mother had a lot of maternal around that issue"); angrily addressing the parent as though the parent were present; in an angry context, slipping into unmarked quotations from the parent. High score in this scale is associated with the preoccupied adult attachment category.
Passivity or vagueness in discourse	High scores are assigned when, throughout the transcript, the speaker seems unable to find words, to seize on a meaning, or to focus upon a topic. The speaker may, for example, repeatedly use vague expression or even nonsense words; add a vague ending to an already completed sentence ("I sat on his lap, and that"); wander to irrelevant topics; or slip into pronoun confusion between the self and the parent. In addition, as though absorbed into early childhood states or memories, the subject may inadvertently (not through quotation) speak as a very young child ("I rune very fast") or describe experience as they are described to a young child (My mother washed my little feet"). Vague discourse should not be confused with restart, hesitation, or dysfluency. This characteristic is related with preoccupied adult attachment.

Some transcripts failed to meet criteria for placement in one of the three organized categories, because one or more scale present score in contradiction each other. In

transcript where, for example, a positive description of one or both of the parents led to a relatively high idealization score, whereas in direct contradiction to the expected global pattering, highly angrily preoccupied speech was also found. Thus the high idealization score called for placement in the dismissing category, whereas other portions of the transcript called for preoccupied category placement (Hesse, 1996).

3.3. Patterns of Attachment

The coding system of the AAI includes three major adult classification systems, which correspond to three distinct types of narrative related attachment experiences (Main & Goldwyn, 1984-1998; Main, Goldwyn & Hesse, 1982-2008).

3.3.1. Secure/Autonomous (F)

Interviews are rated as *autonomous* or secure (F) if the presentation and interpretation of attachment-related experiences (whether positive or negative) is succinct, clear, coherent and relevant, whether experiences are reported as having been favorable or unfavorable. Essentially, these speakers appear to answer question with sufficient (but not excessive) elaboration, returning then the conversational turn to the interviewer. This, can be achieved whatever the nature of the experience being described, and thus, for example, an individual providing a coherent narrative that includes descriptions of physical or sexual abuse by parents will, following this rule system, be judged secure/autonomous. The children of coherent speakers are consistently classified as secure (Main & Goldwyn, 1984-1998).

Five sub-classification of the AAI were developed for secure-autonomous subjects. They represent the range of position a speaker can take between the insecure pole of dismissal and preoccupation. For example, in a dismissing border situation, some secure speakers have set aside some attachment concerns regarding a harsh background (F1a) or one that provided limited opportunity (e.g., hard work, poverty) for attention to attachment (F1b) or they humorously indicate some dismissal or restriction, all while showing that they value attachment (F2). The mainstream (Prototypically secure – F3), obviously "continuously secure" subtype (F3a) is distinguished from the "earned secure" subtype (F3b). Those parents tended to have prototypically secure (B3) babies.

Approaching the border with preoccupied attachment, some secure speakers show a mild preoccupation with attachment against a largely supportive background (F4a) or an

unfortunate (loss) or traumatic background (F4b). Finally, there is the secure speakers who is nonetheless resentful and conflicted in some ways but accepting of continuing the involvement with attachment (F5). Parents who seemed somewhat conflicted of resentful (mildly angrily preoccupied) regarding the parents, but (often somewhat humorously) accepted that anger and involvement had characterized their relationship with their parents and would probably continue to do it (Main & Goldwyn, 1984-1998).

All these secure sub-groups share a relative lack of defensiveness, as moderate to high coherence and with a clear valuing of attachment (Hesse, 2008).

3.3.2. Dismissing (Ds)

Interviews are classified as *dismissing* (Ds) when the narrative is discordant, characterized by describing parents in highly positive terms, with a lack of supporting examples, or with the presence of contradictory statements later in the interview, with narratives typically tends to minimizing attachment-related experiences (Main, 2000, 2008). Usually, these transcripts violate coherence in that they are internally inconsistent, while responses are often excessively terse (e.g. "I don't remember"). Description of parents are most often from favorable to highly favorable. Unlike secure individuals utilizing similar descriptors, however those classified as dismissing fail to provide supportive evidence for these globally positive representations, often contradicting themselves. For example, it is common for dismissing speakers to respond to later interview queries in clearly ways presented a positive impression at the outset (e.g., describing instance of being afraid to go a parent when badly hurt). Speakers falling in this category have repeatedly been found to have children classified as avoidant.

There are four sub-classifications of dismissing adult attachment. Two types of transcript present highly dismissing of attachment (most frequently having avoidant babies A1 – cfr. Tab 1.2.) were uncovered and they differed sharply in their characteristics:

1. In the first subtype (Ds1), speakers were highly idealizing by one of both parents and this idealization was most frequently accompanied by moderate to strong insistence on lack of memory for childhood.
2. In the second subtype (Ds2), rather than being idealizing by one or both parents, speakers were contemptuously derogating of one or both of them (or in some case of attachment-related experience, for example in making fun of people who loss grieving). However, the most prevalent index of

derogation was the attitudes expressed toward the parents that involved discarding them without value and unworthy of consideration, or indeed of more than brief conversational consideration. Although some insistence on lack of memory for childhood was possible in this sub-classification, speakers could be placed in this relatively rare subcategory without insisting on lack of memory.

It is probably not surprising that speakers in both sub-classification tended to have highly avoidant babies, because dismissal of attachment was equally strong (Hesse, 2008). The other two types of sub-classification present moderately dismissing (and most frequently having moderately avoidant babies A2 – cfr. Tab.1.2.):

3. Transcript assigned to the Ds3 (moderately dismissing) classification when idealization and lack of memory were marked but not necessarily extreme. At the level of features, these transcripts had another characteristic not present in Ds1 transcripts. Although expressions of hurt were usually absent an some resentment could be expressed; however, it was usually withdrawn and accompanied by a positive reaffirmation of either parental excellence or a statement indicating that the experience just describe had only made the speaker stronger.

4. A fourth sub-classification of the dismissing classification (Ds4) was very rare, but it was assigned when speakers showed extreme prospective fear of the death of the child with whom they had been observed in the Strange Situation, but were unable to trace this fear to any particular previous experience (such as loss of a previous child or indeed any loss or illness experienced by family or more generally friends). These speakers were not necessarily either idealizing or contemptuously derogating and insistence on absence of memory for childhood may not have been present. Nonetheless, their infants were avoidant of them in the Strange Situation in the original Bay Area study, and to my knowledge they have continued to be found avoidant in succeeding samples (Main, 2008).

3.3.3. Preoccupied/Entangled (E)

Interviews are classified as *preoccupied* (E) when their narratives demonstrated a confused, angry or passive preoccupation with attachment figures. These interviews are characterized by excessive attention to attachment-related memories combined with an

incoherent (e.g. rambling) discourse. Although it is not necessary internally inconsistent, producing nonetheless narratives violate the principle of collaboration. Thus the interview questions appear to stimulate memories, but the speaker is often unable to maintain a focus or to contain his responses to a given question. In many cases, therefore, the memories aroused, rather than intent of the question itself, appear to draw the subject's speech (Hesse, 2008). Among some preoccupied speakers, this is evidence in lengthy, angry, discussion of childhood interaction with the parent(s), which may inappropriately move into the present tense and/or into discussion of the present relationship. Preoccupied speakers may also digress to remote topics, use vague language and on occasion oscillate regarding their view of a parent several times within the same sentence. Infants of these speakers are typically judged resistant/ambivalent (Main, 2008).

Three sub-classification were developed for the parents of preoccupied classification. These included passively preoccupied speakers (E1), angrily preoccupied speakers (E2), and fearfully preoccupied speakers (E3).

1. In passively preoccupied interviews (E1), the speaker may say little that is negative about the parents but seems to get lost in vague discourse usage (e.g., "dadadada" or "and this and that") and cannot stay on topic, perhaps moving into lengthy discussion of the past.

2. In angrily preoccupied interview (E2), the speaker overwhelms the interviewer with incidents and details of parental offenses and cannot seem to get off from the topic and address the questions.

3. In fearfully preoccupied interviews (E3), frightening events are suddenly brought into the interview when they are not the topic, for example, or when they probed on how the mother was (as described) loving, the speaker may suddenly describe how a stepfather sprang out at her in the dark night.

The preoccupation is represented by the fact that the speaker is too overwhelmed or focused on past events or past relationship to address the interview question (Main, Hesse & Hesse, 2011).

Table 3.3. M&G-AAI sub-classification

(Main, Goldwyn & Hesse, 1982-2008)

Classification	Sub-classification	Definition
Dismissing	Ds1	High idealizing Dismissing
	Ds2	High Derogation Dismissing
	Ds3	Moderate Idealizing Ds
	Ds4	Moderate Derogation Ds
Secure/ Autonomous	F1a – F1b	Harsh Secure
	F2	Dismissal Secure
	F3a – F3b	Continuously secure – Earned secure
	F4a – F4b	Supportive Secure – Traumatic Secure
	F5	Resentful Secure
Preoccupied	E1	Passive Preoccupied
	E2	Angry Preoccupied
	E3	Fearful Preoccupied

3.3.4. *Unresolved/disorganized (U/d)*

Interviews may be classified as *unresolved/disorganized* (U/d) when the narratives are characterized by a lack of resolution of trauma, manifested by lapses in the discourse when discussing traumatic events. Interviews classified as *unresolved/disorganized* and also with additional underlying classification of *autonomous, dismissing or preoccupied* (Hesse 1996; Main & Hesse, 1990; Main & Solomon, 1986, 1990).

The AAI transcript of U/d individuals were distinguished by the appearance of (ordinarily) brief slips in the apparent monitoring of thinking of the discourse context during the discussion of loss or other potentially traumatic event. Such discourse/reasoning lapses are suggestive of temporary alterations in consciousness or working memory and are retained to represent either interference from normally dissociated memory or belief system, or unusual absorptions involving memories

triggered by the discussion of traumatic events (Hesse & Main, 1999, 2006; Hesse & van Ijzendoorn, 1998, 1999).

Lapses in the monitoring of reasoning are manifested in statements suggesting that the speakers are temporarily expressing ideas that violate our usual understanding of physical causality or time-space relations. Marked example of reasoning lapses are seen when speakers make statements indicating that a deceased person is believed simultaneously dead and not dead in the physical sense (Hesse, 2008).

In contrast, lapses in the monitoring of discourse sometimes suggest that the topic has triggered a "state shift" indicating a considerable absorption, frequently appearing to involve entrance into peculiar, compartmentalized or even partially dissociated state of mind (Hesse, 1996; Hesse & Main, 2006; Hesse & van Ijzendoorn, 1999). For example, it occurs when a subject moves from his ordinary conversational style into a eulogistic or funereal manner of speaking, or provides excessive details. Individuals can also be assigned to the unresolved/disorganized category on the basis of extreme reports and probably dissociative response to traumatic events, which are not explained despite persistent interviewer probes.

Both state shift and the sudden appearance of incompatible ideas suggest momentary but qualitative changes in consciousness. Thus, they appear to represent temporary/local as opposed to global breakdowns in the speaker's discourse strategy. Discourse/reasoning lapses of the kinds just described often occur in high-functioning individuals and are normally not representative of such of speaker overall conversational style. For this reason, among others, transcripts assigned to the unresolved/disorganized category are given a best fitting alternate classification (e.g., U/Ds, or unresolved/dismissing) (Hesse, 2008).

3.3.5. Unorganized/Cannot Classify (CC)

There are several types of Cannot Classify interview: in majority of the text, scale scores may point to contradictory insecure classifications (e.g., strong idealizing and strong involved/involving anger are seen within the same transcript). Those interviews are classified as "contradictory strategies" CC. However, some CC text cannot be determined only by scale scores and rely on the use of feature analysis (Hesse, 2008; Main, 2008; Main & Goldwyn, 2008).

In the other form of CC, violations of Grice's maxims do not necessarily take the forms ordinarily seen in insecure speakers. Coherence violation are not necessarily

limited to particular locations in the text, or to particular person or events. In rare and extreme cases, the transcript as a whole may be so incoherent as to be difficult to follow.

The transcript could be incoherent without elevated scores for insecure state of mind. Transcript may also be considered unclassifiable if:

1. The speaker seems to attempt to frighten the listener (e.g., with the sudden, unintroduced, detailed discussion of a murder);

2. The speaker refuses to speak during the interview, responding that memories are unavailable or are too painful to discuss.

Finally, transcripts are considered unclassifiable if they seem to equally match to both secure and insecure classification (e.g., CC/Ds/F or CC/F/E) (Hesse, 2008).

3.4. M&G coding system validity

Rigorous psychometric testing and meta-analyses of the M&G-AAI demonstrate stability, discriminant and predictive validity in both clinical and non-clinical populations (Bakermans-Kranenburg & van Ijzendoorn, 1993, 2009; Hesse, 2008; van Ijzendoorn & Bakermans-Kranenburg, 2008). The test–retest stabilities of the secure/autonomous, dismissing and preoccupied categories are 77–90% in a period from 1 to 15 month (Bakermans-Kranenburg & van Ijzendoorn, 1993; Benoit & Parker, 1994; Sagi et al., 1994) and are not attributable to interviewer effects. For these reasons, Hesse (2008) defines the AAI as the gold standard for assessing attachment representations.

Recent studies have confirmed the validity of the M&G-AAI. Haydon, Roisman and Burt (2012), revealed distinctive behavioral correlates of dismissing versus preoccupied states of mind. Haltigan, Roisman and Haydon (2014), evidenced the significant association (p<.005) between insecure subject (at the AAI) with depression, anxiety and somatic disorder.

3.4.1. M&G coding system limitations

The M&G model of AAI coding was originally developed on 40 North American mothers from the San Francisco Bay Area (Main, & Goldwyn, 2008), who had been assessed with their children at the Ainsworth's *Strange Situation Procedure* (SSP, Ainsworth et al., 1978), testing the transmission of attachment hypothesis proposed by Mary Main. After some research on attachment and physical child abuse in the same Bay Area (George, & Main, 1979) and the presentation of the protocol for the assessing of the

new Disorganized/disoriented classification (D) at the SSP (Main, & Solomon, 1986), some studies evidenced an association between the D classification of the child at the SSP and:

1. a frightening/frightened parental behavior (Main, & Solomon, 1990; van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999);

2. a dissociative parental behavior (Abrams, Rifkin, & Hesse, 2006);

3. a helpless or withdrawing parental behavior (Solomon & George, 1996; Lyons-Ruth et al., 2013).

When the M&G criteria are used in a clinical sample, most subjects tend to be classified as U (U/E3) and CC (Cannot Classify) and the model seems to have some limits in discriminating their pathological mental process (Bakermans-Kranenburg, & van IJzendoorn, 2009).

Duschinsky, in his 2015 review on the emergence of disorganized/disoriented classification, evidenced that there is a wide tendency across psychological discourses to mummify classifications. Although several researchers consider the U/D category just as a distinctive fourth attachment pattern, it should be referred more to an expression of a deregulation of the attachment system and an adaptive response of the infant to the caregiving environment. Despite Main and Solomon's (1986) first formulation headlined a new classification of attachment behavior, some years later they sustained that the U classification was not intended to indicate a unitary dysfunction in the mental health, but to scale the degree of certainty in the coder that the behavior under observation represented a disruption of an infant's attachment system (Duschinsky, 2015). These differences in D/U formulation could lead to consider this behavior as a new attachment pattern generating ambiguity in clinical use of this concept.

In table 3.4. is shown the distribution of attachment in clinical and non-clinical population.

Table 3.4. Distribution of pattern of attachment

in clinical and no-clinical population

(Bakermans-Kranenburg & van IJzendoorn, 2009)

	Dismissing (Ds)	Free (F)	Entangled (E)	Unresolved (U) & Cannot Classify (CC)
Non-clinical mothers (N=748)	16%	56%	9%	18%
Non-clinical Fathers (N=439)	24%	50%	11%	15%
Sample at risk (N=1368)	32%	30%	7%	32%
Clinical sample (N=1854)	23%	21%	13%	43%

When the AAI is applied to a clinical sample, the distribution is unbalanced on the U pattern. It is similar a garbage category, in which fall the most clinical subjects. This model could be not sufficient to discriminate mental process in clinical populations.

A present difficult with the cannot classify category (CC) is that, although it is known to appear most frequently in highly troubled populations, it has not been subjected to the most basic psychometric testing (e.g., for stability). This means that, even assuming that CC itself is stable (which, again, remains to be tested), CC status on AAI may simple mean that there is no underlying, uninterrupted and singular organization to the next. Nonetheless, this of course suggest an anomalous state of mind (Fraley & Roisman, 2014).

4. DYNAMIC-MATURATIONAL MODEL (DMM)

The *Dynamic-Maturational Model of Attachment and Adaptation* (DMM), originally proposed by Patricia M. Crittenden (Crittenden, & Ainsworth, 1989; Crittenden, 2000, 2008a, 2008b, 2015a, 2015b), is an alternative theory of attachment and adaptation that can be used for the classification of attachment based on AAI (Crittenden, & Landini, 2011). Following the DMM, with the maturation of the brain, more sophisticated strategies could develop in a dynamic interaction with ongoing experience. In this model, patterns of attachment are considered self-protective strategies that varied dimensionally (rather than categorically) in different using of cognitive-contingent information and affect-arousing information to organize behavior. The DMM does not consider "disorganized" category and, in fact, fear is treated as a powerful organizing affect (Crittenden, Claussen, & Kozlowska, 2007; Spieker & Crittenden, 2009; Crittenden & Newman, 2010; Shah, Fonagy, & Strathearn, 2010). This differs from M&G model, which considered fear to be a disorganizing mechanism (Main, & Hesse, 1990).

Three fundamental notions are proposed to underlay attachment representations in DMM theory. First, dysfunction is a response to intolerable threats that often early occur in development when the child is not protected and comforted (Bowlby, 1969, 1980). Secondly, psychological processing is developmentally transformed in a progressive attempt to understand and protect the self. Thirdly, maladaptive behavior, that is a psychological disorder, is the individual's best attempt to apply what he or she learned about danger while growing up to the adult task of self-protection, reproduction, and protection of children. The DMM defines attachment as three entwined components (Crittenden, 1997):

1. relationships focused on protection and comfort;
2. patterns of mental processing of information about danger and sexual opportunities;
3. strategies for self-protection, and protection of progeny. In the DMM, attachment is always viewed in a relationship term, it always implies reciprocal processes and it is ever-changing and dynamic.

The DMM gives neurological and physical maturation a central role in children's ability to construct self-protective and, after puberty, sexual strategies (Crittenden 2008a,

2008b). Therefore, the DMM offers a developmentally increasing array of possible strategies (Crittenden & Landini, 2011). The basis for this organization are universal (genetically transmitted) forms of information processing that results in the individual's directing preferential attention to stimulated to danger and sex. Specifically, the DMM model begins with Ainsworth's strategies for infants, adding increasingly complex strategies as children mature. In the DMM, the three original Ainsworth's configurations (A, B, C) are maintained, but threatened children and adults show organized attachment strategies that reflect complex Type A or C organizations, defined A3-8 and C3-8 and include organized A/C and AC combinations (Crittenden, & Landini, 2011). These patterns, very different in their configuration, are often associated with behavioral or psychological alterations and family conditions of neglect, maltreatment or abuse (Shah, & Strathearn, 2014; Crittenden, 2015a, 2015b). These DMM high-risk patterns are defined "Compulsive A+" or "Obsessive C+" strategies and referral to strategies with increasingly distorted level of respectively cognition and affect (Crittenden, 1999).

4.1. Developmental Pathways

4.1.1. Development in infancy

Maturation combined with experience enables children to develop new strategies that better represent the relation of self to the context (Crittenden, 2000). Until adulthood, however, children cannot account adequately for all types of information. Moreover, the context keeps changing as children mature, i.e. challenges are not static (Crittenden, 2000). Consequently, each developmental step forward contains both the opportunity to correct past error and generate more adaptive behavior and also the risk that new challenges will prevent integration and elicit more extreme responses. During the infancy, the problems are related to:

1. learn which signals effect adults behavior (Crittenden, 2015b)
2. share affective states with others (e.g., attunement) (Crittenden, 2008a);
3. regulate arousal to maintain, for increasingly long periods of time, a state of moderate attentive arousal (Crittenden, 1979-2007).

Failure to accomplish these with attachment figures leads to inhibiting or exaggerating affective displays (i.e., Type A or C strategies) (Crittenden, 2008b; 2015a).
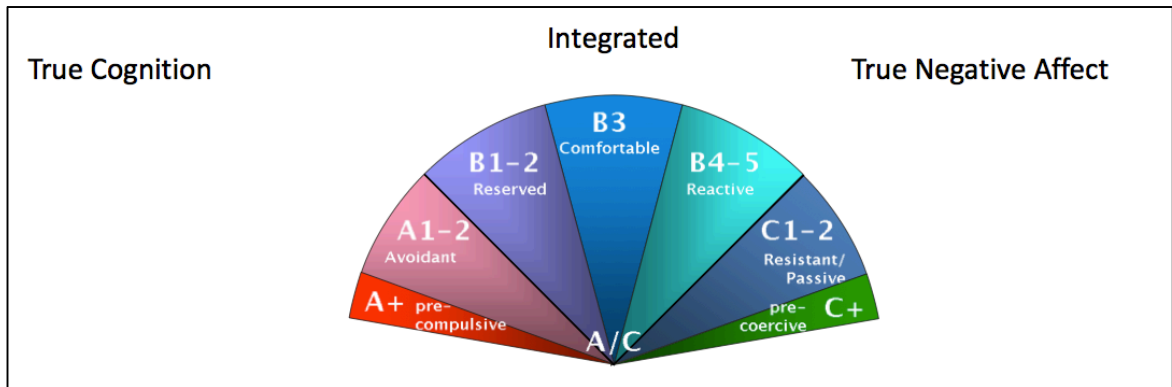
4.1.2.   The Preschool Years

In the preschool years, the risks are that some children will fail to establish relations with non-familial adults and children and that those who choose a strategy of escalation of affect may harm themselves or elicit harm from others while trying to provoke a response. Therefore, the extreme Type C patterns carry more immediate and obvious risks than the Type A inhibitory strategies. In addition, preschool-age children make the transition from action to language. The risk is that children using a Type A strategy will learn that their negative feelings cannot be communicated in words to parents, learning to use language to satisfy the listener rather than the self. Children using a Type C strategy are more likely to learn that others can use language to deceive them, especially about the future. The risk is that they will continue to communicate through action, instead of language (Crittenden, 2008a).

Figure 4.2. DMM Self-Protective Strategies in the Preschool Years
(Spieker & Crittenden, 2009)
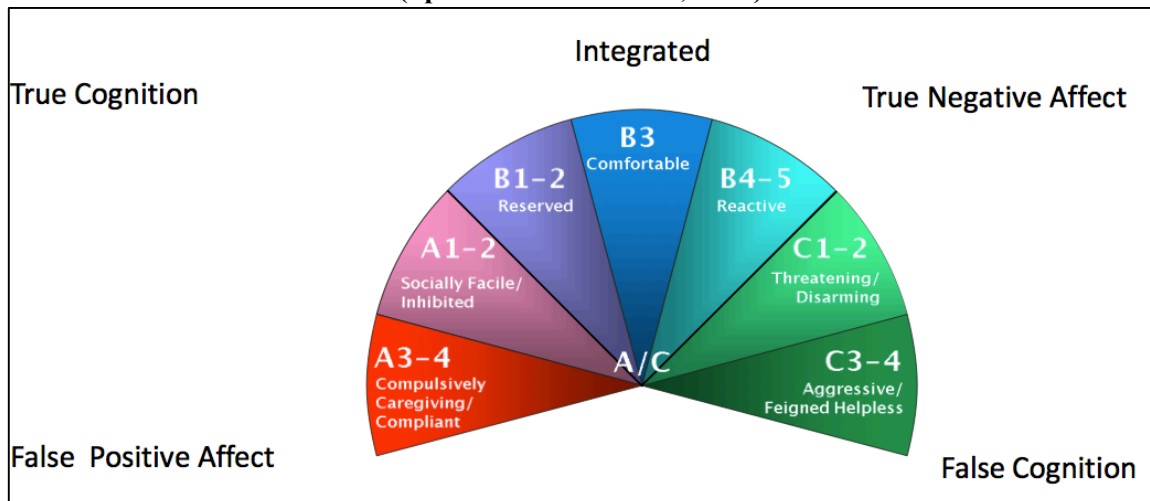
4.1.3. The School Years

During the school years, the cortex matures in ways that permit children to reflect on their own behavior for the first time. Children who are not helped to do this by their attachment figures will find it increasingly difficult to regulate their behavior. This will affect both their inner experience of themselves and their experience of relationships with peers. Usually this failure occurs when:

1. the costs of failing to be good are so great that the child relies too heavily on adults perspectives (Crittenden, 1997-2015);

2. consequences are so unpredictable that the child relies too heavily on his or her own perspective (Crittenden, 1997-2015).

The former satisfies adults (unnoticed or even praised), whereas the latter upsets adults and results in punishment and referrals to mental health or correction services. To avoid the latter outcomes, some children using a Type C strategy begin to use language to deceive the others (Crittenden & Landini, 2011).

Figure 4.3. DMM Self-Protective Strategies in the School Years
(Courtesy by P. M. Crittenden)
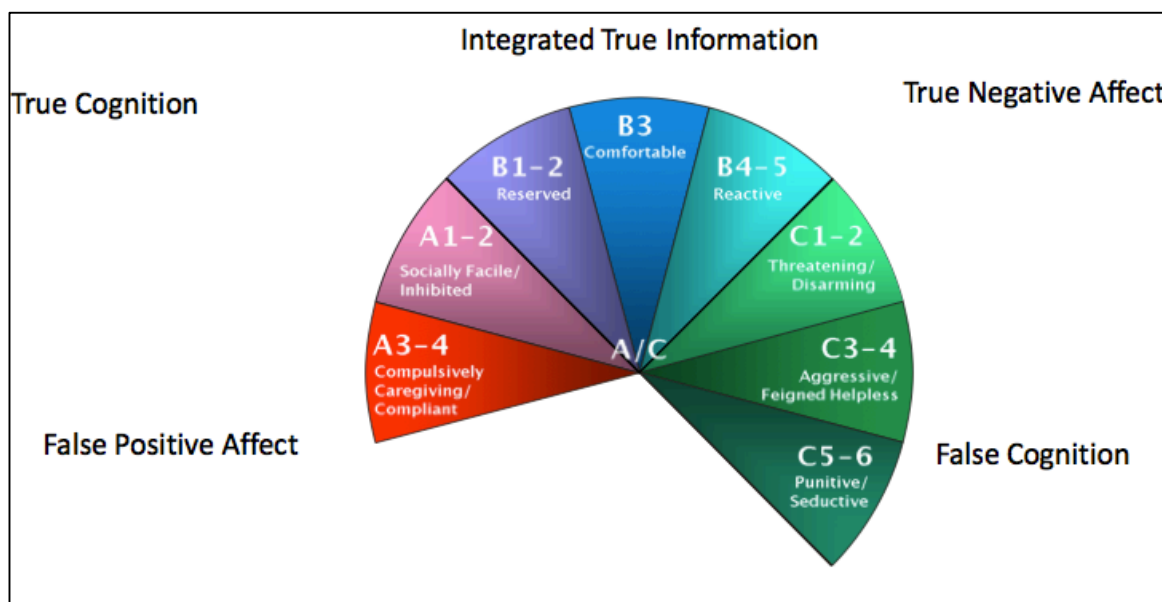
4.1.4. Adulthood

The complete neurological and physical maturation develops only in adulthood. Since that moment, subjects could use integrate transformed information to construct a plausible story of his own life. In more severe psychopathology, true affective or

cognitive information may be completely omitted, falsified or denied (Crittenden & Landini, 2011).

Figure 4.4. DMM Self-Protective Strategies in Adulthood

(Crittenden & Landini, 2011)
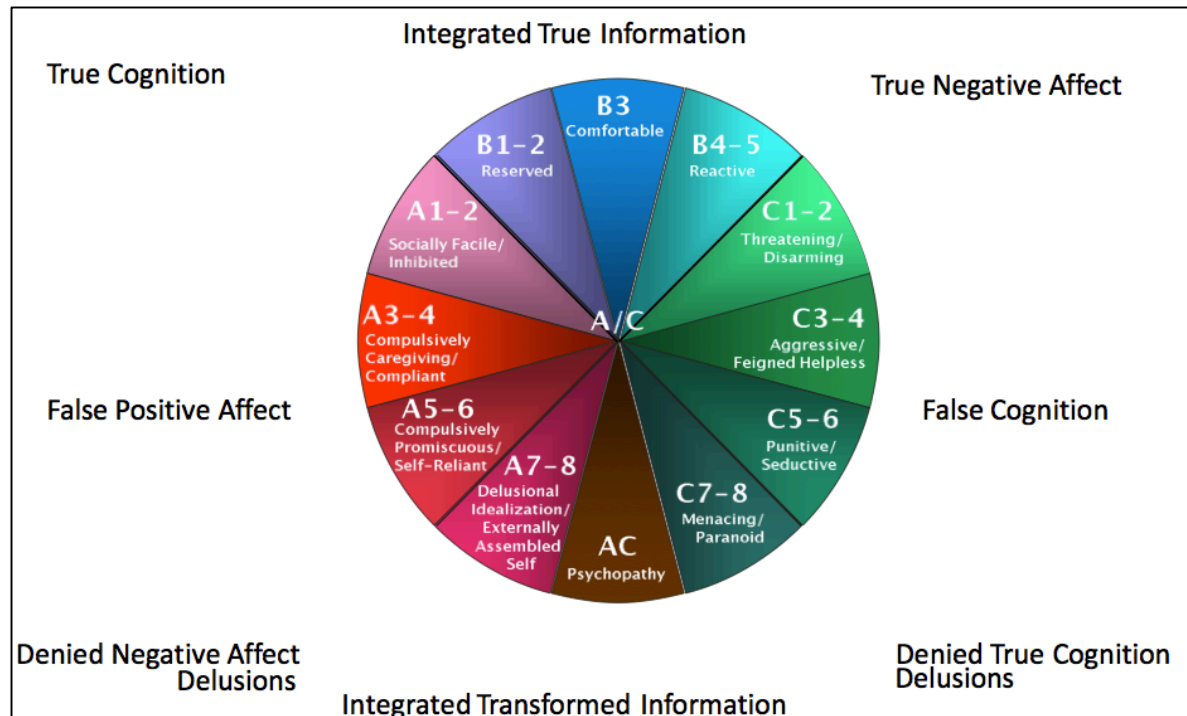
4.2. DMM Assessment Tools

The DMM series of developmental assessment permit to assess age-specific individuals representations and behavior using enacted, preverbal procedures during infancy and preschool years and verbal procedures during school years, adolescence and adulthood (Farnfield, Hautamäki, Nørbech, & Sahhar, 2010):

1. The *CARE-Index* (Crittenden, 1979-2007) can be used with children from birth to 15 months and the toddler method (Crittenden, 1979-2007) with children aged about between 16 and 72 months. It is a play-based system, designed to assess dyadic synchrony, that is the 'dance' or fit between attachment figure and child.

2. The *Infant Strange Situation Procedure* (SSP) (Ainsworth et al., 1978) is used from 11-15 months. The DMM approach is particularly sensitive to the nuances of attachment behavior in high risk contexts.

3. The *Preschool Assessment of Attachment* (PAA; Crittenden, 1988-2004, 1992c) is a method of coding the Strange Situation Procedure with children between the age of 18 months to 5 years (Crittenden, 1992). It is developmentally and clinically fine-tuned to tap the attachment behavior of endangered children.

Each of these addresses child behavior in the context of the attachment figure, relies only on those psychological and behavioral processes that are available to children of that age. Thus, integrative processes are not addressed by these tools.

The discourse-based assessments include:

1. The *School-Aged Assessment of Attachment* (SAA; Crittenden, 1997-2005), assesses self-protective strategies deployed by children aged from 6 to approximately 12 years and can be used with children showing a wide range of developmental and social problems.

2. The *Modified Transition to Adulthood Attachment Interview* (TAAI; Crittenden, 2005), adapted for 16-25-years-olds subjects, represent their current attachment relationships. It is a modified version of the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1984–1996).

3. The *Modified Adult Attachment Interview* (DMM-AAI; Crittenden, 2007; Crittenden & Landini, 2011). Compared with George, Kaplan and Main's AAI protocol (1985–1996), the DMM-AAI, as modified by Crittenden to embrace the experiences of very troubled adults, probes a wider array of memory systems and a broader set of possible dangers.

4.3. Adult Attachment Interview coding system

Coding and classifying Adult Attachment Interviews depends upon three sources of information (Crittenden, 2008a; Crittenden & Landini, 2011):

1. childhood history of life events;

2. the use of procedural, imaged, semantic and episodic representational models and their integration to represent childhood experience;

3. discourse markers that identify instances of information or discrepancy

between memory systems.

4.3.1. *History of life events*

Life events are important for understanding the psychological support and challenges faced by the speaker. It is in the light of these that the speaker behavioral adaptation and mental coherency can be evaluated. The events themselves do not determine classification, even when the events were experienced as traumatic. Events of the following sorts are important (Crittenden, 1999, 2008a; Crittenden & Landini, 2011):

1. *Comfort*: it is presumed that all parents "love" their children in some way; this construct refers to a specific affective way in which the love is experienced. Comforting parents are those who are semantically described with at least some positive adjectives and for whom there are believable episodes of comforting behavior. In evaluating the comforting quality of the episodes, it is more important that the parent served a comforting function when the speaker was in distress or danger than that the parent provided basic caretaking, i.e. in dressing moment, in feeding moment or when they were available for play or giving the children material objects. Consequently, the responses to the questions about illness, injury and distress are important for evaluating this construct (in addition to any relevant adjectives). Speakers with comforting parents typically are classified as balanced (B) (Crittenden & Landini, 2011).

2. *Protection*: Protective parents were protective and caring when their children were in danger. However, they may not have shared many positive times with their children, being perceived as loving by the children or emotionally supported their children, but when their children were physically endangered, they protected them. In addition, the parents were not a source of threat to the children, i.e. they did not attack, abandon, taunt, or fail to respond to their children, nor did they threaten these actions. However, they may have failed to attend to children's feelings when the child was safe, but uncomfortable or they may have been so self- preoccupied or unpredictable that the child did not feel safe. Speakers with protective parents who were not perceived by their children as displaying love are often assigned to the low subscript dismissing (A1-

2) and preoccupied (C1-2) sub-patterns (Crittenden & Landini, 2011).

3. *Danger*: it is a crucial point. Whenever a child physical or emotional health or safety is threatened, there is danger. This includes natural disasters, severe medical illnesses, parental unavailability for protection (for any reason), war, etc. It also includes dangers caused by parental such as spousal violence, divorce, child abuse, etc. and threats as that are intentionally inflicted or that are not actively assuaged (Crittenden & Landini, 2011).

4.3.2. Memory systems

The Adult Attachment Interview is constructed to assess procedural, imaged, semantic, episodic and working (integrative) memory. It uses procedural memory as the process with the interviewer and it often uses elicits imaged memories in response to probes of other memory systems. Each memory system is systematically addressed in the interview, so that coders can make comparisons among them. Each memory system can be independently evaluated, although discrepancies among memory systems provide the clearest guide to the speaker's mental functioning (Fig. 4.1.) (Crittenden, 2004).

1. *Procedural memory*: In terms of procedures, balanced speakers engage with the interviewer in a cooperative manner. This includes taking the listener's perspective and providing the information necessary to make the story comprehensible while, nevertheless, telling the story from one's own perspective (Crittenden, 1999).

2. *Imaged memory*: In terms of images, balanced speakers lively integrate fresh images into their episodes. Dismissing speakers either eliminate them or provide them, but as disconnected from the self and unique to the context, such that the image appears to represent the speaker's unacknowledged (and unintegrated) affect. Images of comforting places are often substituted for discussions of attachment figures and comfort from attachment figures; images of discomfort are disembodied not associated with the self. Preoccupied speakers tend to use many images and to use them to clarify one of their mixed feelings. The images are associated with self, but decontextualized, for example they seem to 'live' independently of their source in time and space. These images frequently

dominate other memory systems such that few complete episodes are given (i.e., temporal order, particularly causal events and their outcomes, is often missing) and semantic statements are decomposed into images of specific occasions (Crittenden, 1999).

3. *Semantic memory*: In semantic terms, balanced speakers give qualified evaluations that sometimes contain (Crittenden, 2004):

        a. if/then (or if/when) contingencies (e.g., If he was sober, he was generous, but sometimes when he was drunk, he was violent);

        b. multiple causal factors;

        c. differentiation of temporal order from causation from responsibility.

For example, with regard to the last mentioned, the speaker action as an infant may have caused (temporally preceded in a causal manner) the bad event, but the infant is not responsible for others wrong actions. Balanced individuals recognize it. Therefore, responsibility is distributed with regard to maturity (children are not responsible for adults actions), power/hierarchy (truly powerless people are not responsible for the actions of powerful people), and knowledge (what was known by the individual when action was taken). However, considering the maturity as a changing variable across childhood (i.e., infants are not responsible at all, children bear some responsibility and adolescents more responsibilities), balance must be interpreted in age-appropriated ways (Crittenden & Landini, 2011).

4. *Connotative language*: although connotative language has not been identified by cognitive psychologists as a memory system, it is a logical extension of a memory systems approach to transformations of sensory stimulation to create increasingly sophisticated and precise forms of representation. Connotative language, as here intended, reflects a verbalized form of imaged memory. It is the logical contrast to semantic memory being the verbalized extension of procedural memory and consists on the non-verbal qualities of speech and word choice and combination. The components of connotative language include rhythm, rhyme,

alliteration, onomatopoeia, hyperbole, parallel structure, similitudes, metaphor, symbolism, irony, sarcasm, etc. Metaphor and symbolism provide particular issues in the interpretation. In the Dynamic-Maturational method, the meanings of these must be defined by the speaker (i.e., use of universally understood metaphors cannot be attributed to speakers in the AAI.) The use of connotative language can both illuminate and obscure meaning. In general, low subscript speakers sparingly use connotative language and it functions specifically to add meaning to the communicative process. On the other hand, high subscript speakers heavily depend on connotative language to replace denotative meanings and, in the highest subscript patterns, to obscure meaning (Crittenden & Landini, 2011).

5. *Episodic memory*: In terms of episodes, balanced speakers provide episodes that have both cognitive information (temporal order, initial events and their outcomes and causal clarity) and affective information (statements about feeling, lively images). Dismissing speakers vary from claiming that they are unable to remember episodes and so providing none, to constructing episodes through semantic reasoning, cutting episodes off before unpleasant outcomes occur, recalling negative episodes but telling them from the attachment figure perspective and distorting episodes to omit information that would permit assignment of some responsibility to attachment figures. Preoccupied speakers freely speak of affectively rousing episodes, including negative episodes, but they seem more concerned with how they felt than with what happened; in addition, they ramble through partially told episodes without apparent order. Underlying their wandering speech, however it is a pattern of cutting directly to the affective climax (the portion most likely to elicit cut-offs from dismissing speakers) without attention to temporal or causal sequence. In very high subscript Type C speakers, the temporal order is accurate, but with such flagrant omissions of information that the causal relations are falsified, for example when the self appears to be an innocent victim when the self is actually responsible for threat to others (Crittenden & Landini, 2011).

6. *Working integrative memory*: In terms of integrative memory, balanced speakers use working memory to consider together all of the

transformations of information (Crittenden & Landini, 2011). They focus on discrepancies and use these to identify and correct transformed information, thus generating new and more judicious understandings (Crittenden & Landini, 2011). A particularly important cortical function is to apply new integrative possibilities and new information to the interpretation of past experience, so to construct more accurate expectations regarding future events. Such integration can enable balanced speakers to understand and forgive parental behavior that was hurtful in the past. However, it is important that speakers both recognize the validity of the new perspective and also not deny the truth of their childhood experience (Crittenden, 2015a). Dismissing speakers more often use optimistic platitudes or lack of interest to avoid integrative thinking. Moreover, they fail to note when the information that they provided semantically fails to match that which they provided in episodes or images (Crittenden, 2015a). When new abilities or information enable them to explain parental behavior, they tend to deny their childhood perspective or to blame themselves for "selfish" feelings. On the other hand, preoccupied speakers give the appearance of understanding by using psychological jargon and conclusions that are "borrowed" from books, television, and other people, but fail to note that they have not really addressed the questions asked, that they have violated the boundaries of time, place, and/or person, or that they have mixed feelings about a complex reality. Psychological jargon, in particular, is used to 'explain' what it only 'describes.' Thus, only balanced speakers show congruence (or the ability to achieve congruence) between information processed in different ways, i.e., in different memory systems (Crittenden & Landini, 2011).

Procedural and Imaged memory systems are functional at birth (Crittenden, 2000). Semantic memory and Connotative language begin to function after about 2 years of age (Crittenden, 200). Episodic memory begins to function after about 3 years of age. Integrative functioning is always present, but is very limited until the school years and not mature until the 30's (Crittenden, 2000).

DMM considers both what constitutes a self- protective strategy and what might look like the array of self-protective strategies (Crittenden, 2004).

Figure 4.5. Memory systems

(Crittenden & Landini, 2011)

Sensory Stimulation

⬇   ⬇

Temporal Order   Intensity

Cognition   Affect

⬇   ⬇

Procedural Memory   Imaged Memory

⬇   ⬇

Semantic Memory   Connotative Language

⬇   ⬇

Episodic Memory [Source Memory]

⬇

Integrative Functioning [Working Memory]
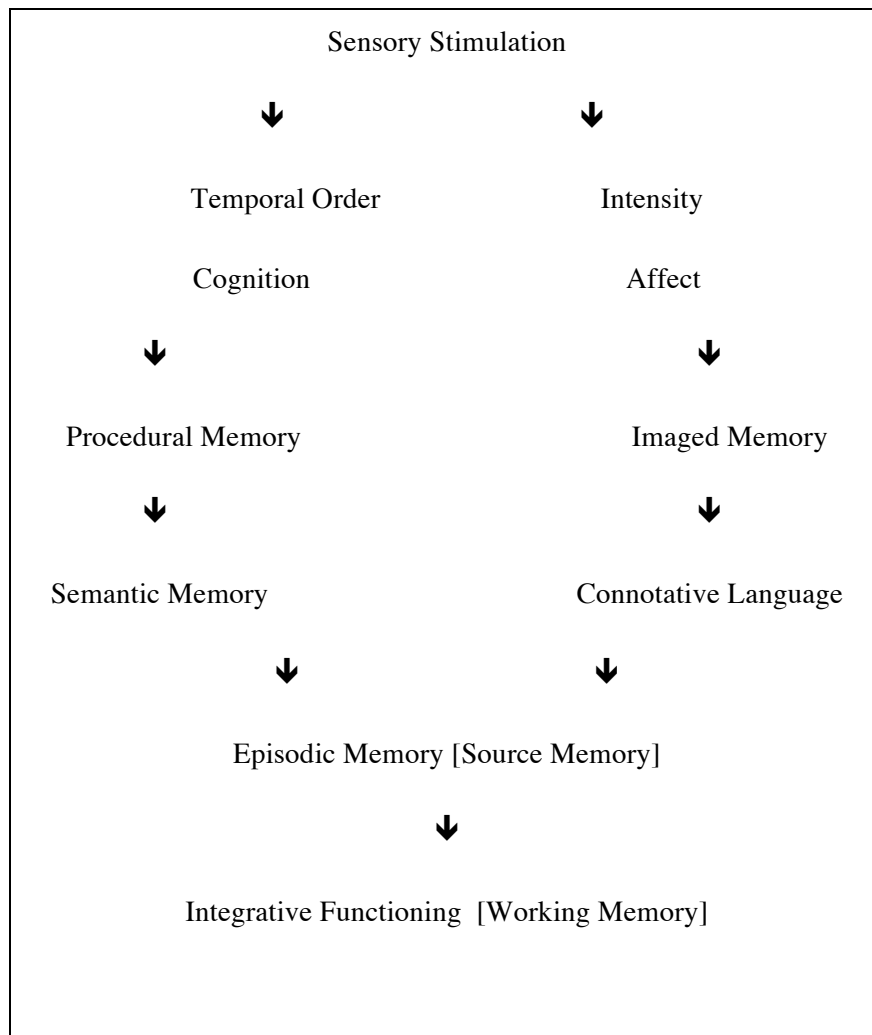
4.4.Patterns of Attachment

The terms "pattern of attachment" and "quality of attachment" have been used to refer to the ABC patterns described by Ainsworth. They are also considered strategies and internal representational models (Shah & Strathearn, 2014).

The Dynamic-Maturational Model of attachment expands the Ainsworth model to include self-protective strategies that require greater neurological and physical maturity than infants have (Crittenden, 1997).

The range of DMM strategies is described below. Each is described both as an interpersonal strategy both in terms of benefits and costs of the use of that strategy (Courtesy by P. M. Crittenden).

Figure 4.6. Dynamic-Maturational Model of Attachment and Adaptation

(Courtesy by P. M. Crittenden)
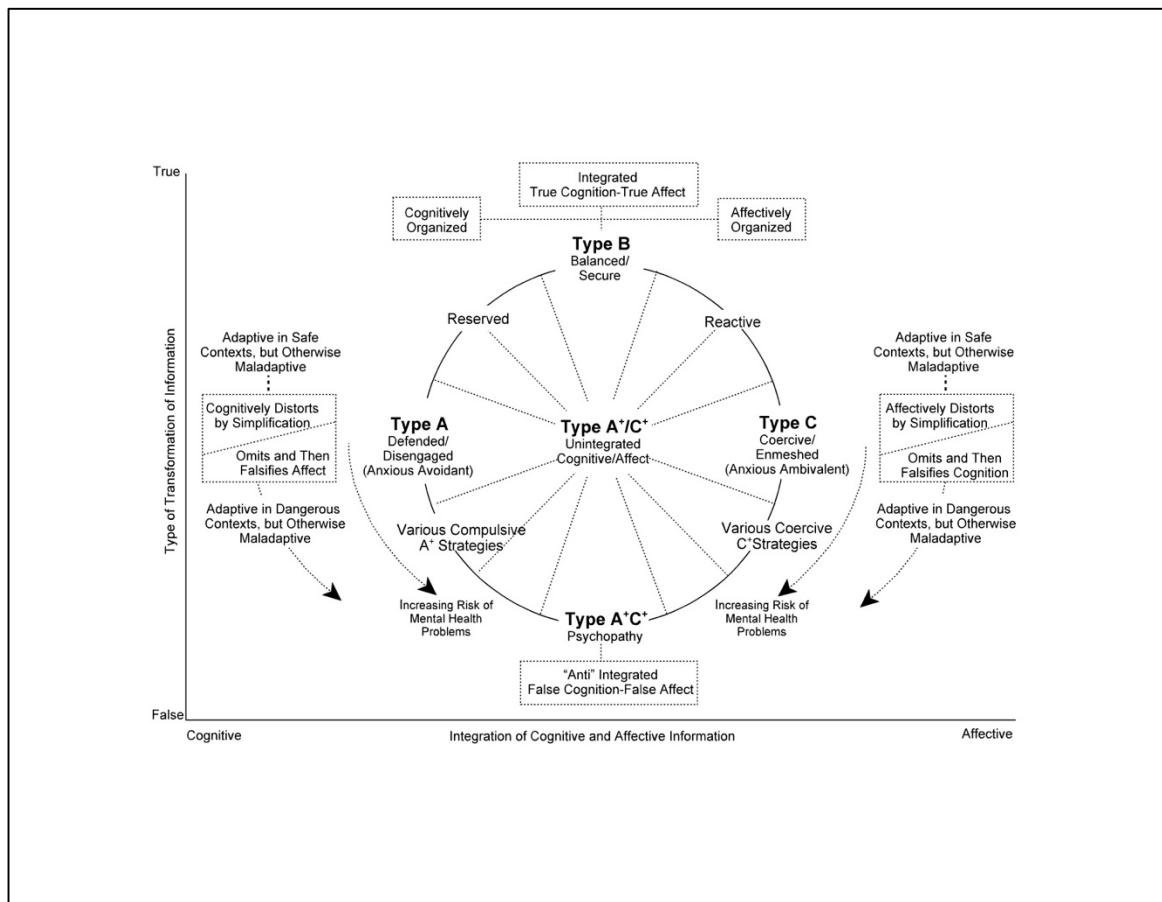
4.4.1. Type A

Individuals using the Type A sub-patterns organize their behavior around cognitive procedural and semantic contingencies and discard as unreliable or misleading imaged and connotative information (i.e., affect). As the subscript of the pattern increases (from A1-2 to A7-8), the extent of distortion in cognition and affect increases, as does the compulsiveness with which the strategy is applied to daily problems. That is, an individual classified as A1 (idealizing of attachment figures) or A2 (negating of self) uses a strategy that is mildly biased toward temporal contingencies, but in the face of clear disconfirming information, can change strategy whereas an individual using an A7 or A8 strategy (delusional idealization or externally assembled self) relies almost exclusively on temporally organized and distorted information and applies the strategy without variation to both appropriate and inappropriate conditions in spite of clear, strong, and highly self-

relevant disconfirming information. The intermediary sub-strategies are A3 (compulsive caregiving), A4 (compulsive compliance), A5 (compulsively promiscuous), and A6 (compulsively self-reliant). Strategies are considered "compulsive" to the extent that they require the individual to act in a rapid, reflexive, and unchanging manner. Three points are important. First, cognition takes two forms, procedural action and prescriptive semantic guides. Second, as the subscript increases, the source of semantic prescriptions becomes increasingly outside the self (i.e. parental directives to moral/religious standards to people claiming to represent or be the source of guidance). Third, as the subscript increases from A1-2 to A7-8, there is an increase in both the extent of distortion of information and also the uniformity with which the strategy is applied to all perceived threats, appropriately and inappropriately (Crittenden & Landini, 2011).

The A1-2 strategy uses cognitive predictions, in the context of the very few real dangers. The attachment figures are idealized, disregarding their negative qualities (A1), or the self is rated a little bit negatively (A2). The strategy is developed in early childhood. Most people who use A1-2 strategies are predictable and responsible people who are a bit "cold" and that "tend to business". They inhibit the almost all negative affective states, but when the situation is suitable, they may experience negative affective states. The risks of this configuration are slight: a little less joy than it might be possible, and perhaps a bit sad. Despite this, it is a versatile strategy in conditions that are characterized by predictability (Crittenden, 1999).

Subjects who use compulsive caregiving strategy (A3) (Bowlby, 1973) rely on predictable contingencies, inhibit negative affective states and protect themselves through the protection of their attachment figure. The precursors of this strategy can be observed during early childhood, but the strategy works fully only from pre-school. Children who use the A3 strategy try to cheer up or support sad and vulnerable attachment figures, with the advantage of making more protective these figures. In adulthood, often they find a job that involves saving or care for others, especially those who appear weak and needy; the advantage is to be respected and appreciated. The biggest risk associated with the strategy is depression, especially if no one needs these people (Crittenden, 2008a).

The compulsively compliance subjects (A4) (Crittenden 2008a) try to avoid the danger, inhibit negative affective states and protect themselves by doing what their attachment figures want. This configuration is frequently in children whose attachment figures are wrathful and menacing. The precursors are visible in early childhood, but the strategy is properly organized only in preschool. Children who use the compulsive

compliance tend to be overly vigilant, quick to anticipate and meet the desires of others, and generally appear restless and anxious. Anxiety, however, is disguised by the subject, and frequently appears as somatic symptoms. The advantage is that they are logical and rational people; the risks are lack of personal motivation, physical symptoms, traumatic responses, depression, and in extreme cases psychotic intrusion of negative affective states unregulated (Crittenden, 1999).

Some individuals use a compulsively promiscuous strategy (A5) (Crittenden, 2000) to avoid the real intimacy while maintaining a human contact and, in some cases, satisfying the sexual desires. They show false positive affective states, including the sexual desire, and protect themselves from rejection engaged superficially relations with many people not deeply involved with anyone. This strategy is developed in adolescence when the intimate relations in the past have been treacherous, and strangers seem to offer the only hope for closeness and sexual satisfaction. It can be manifested in a socially promiscuous behavior (that does not involve sexuality) or, in more serious cases, such as sexual promiscuity. The benefits are reducing the risk of rejection; the risks are both physical (especially in sexual promiscuity) both psychological, because the absence of relation and real affects can lead to depression (Crittenden, 2000).

Individuals using a compulsively self-reliant strategy (A6) (Bowlby, 1980) do not have confidence that others are predictable in their needs, and are inadequate in meeting these needs. They inhibit negative affective states and protects themselves not relying on others. This behavior protects itself from the others, but it makes loss the aid and the comfort of the others. Usually this strategy develops in adolescence after the subjects is not be able to regulate the behavior of important parental figures, which are dangerous and not protective. They withdraw from intimate relationships as they become old enough to take care of themselves. There is a social form of the strategy (in which subjects work adaptively in social and business contexts, but are far apart in intimacy) and an isolated form in which the subjects are not able to handle any interpersonal relationship, and withdraw as much as possible from the others. The risks of this configuration are the lack of motivation and depression, along with indicators of psychosomatic suffering. In addition, this strategy can negatively interfere with the maintenance of long-term intimate relationships (Crittenden & Landini, 2011).

Subjects with delusional idealization (A7) (Crittenden, 2000) had repeated experiences of grave danger not predictable nor controllable. They show a fragile false positive emotional state, and they protect themselves, imagining their attachment figure

as protective and loving, while they are powerless and hostile. Often, negative affective states are inhibited to the point where even the physical pain is not perceived, or it is confused with the comfort. This is a desperate strategy of false belief in security when no effort is useful to reduce the danger (i.e. the "hostage syndrome"). Paradoxically, the appearance is generally very pleasant, giving few evidences of fear and trauma behind the pleasant exterior, until the circumstances produce an intrusion of negative affects. This configuration develops only in adulthood and leaves the adult lacking preparation for mutual intimacy, and at the risk of attracting dangerous partners (Crittenden & Landini, 2011).

Individuals using a A8 strategy (externally assembled self, Crittenden, 2000) do what others require, have few genuine feelings, and try to protect themselves by making absolute reliance on other, usually professionals who replace their attachment figures absent or dangerous. This strategy has the advantage of feel the professional "special", but the disadvantage is that a precarious false self like this, cannot survive without professional support. Both A7 A8 that are associated with maltreatment, early pervasive and sadistic abuse and neglect (Crittenden, 2008a).

4.4.2. Type B

Thus, as individuals deviate away from Type B, they become increasingly locked into a strategy without sufficient regard to current circumstances (Bowlby, 1980). Using integrative processes, on the other hand, reflects mental balance with regard to the type of information used to generate behavior and this, in turn, creates the greatest probability that (Crittenden & Landini, 2011):

a) distortions in representation will be discovered and corrected and
b) occasion-specific and effective self- protective solutions will be found to life's threats.

Psychologically balanced individuals have the greatest probability of being safe and feeling secure. Put another way, the Type A and C strategies use past representations to organize behavior (with working memory fitting the old solution to the current context, rather than considering whether the solution fits the context). The Type B strategy, on the other hand, is a strategy for using information to generate new solutions to problems (Bowlby, 2008).

The Type B strategy involves a balanced integration of temporal predictions with affect and emotion. The type B subjects show all kinds of behavior, but are similar for the

ability to adapt to a wide variety of situations in ways that are protective for themselves, for their children. They communicate directly, negotiate differences, and find mutually acceptable compromises. The affective and cognitive information suffer little distortion, particularly they not distort information themselves (Crittenden & Landini, 2011). The Type B strategy open communication, clear and mutual develops in infancy in implicit memory systems, and is the best strategy to secure and comforting conditions. However, it is a dangerous strategy in dangerous conditions, in particular when the attachment figures are the source of the danger. In adulthood, reflective processes make this strategy the more adaptive, because clear psychological processes can lead to that among all the behavioral strategies that will work best for each environment. The flexibility and adaptation are hallmarks of reflective adult form of Type B (Crittenden, 2008a).

4.4.3. Type C

Individuals using the Type C sub-strategies are biased toward acting on the basis of their feelings (i.e., affect, as represented by imaged and connotative information) and find temporal contingencies to be unpredictable or misleading Crittenden, 2007). Type C is a more complex organization than Type A (Crittenden, 1999). In infancy, it is experienced as simple arousal leading to mixed feelings of anger, fear, and desire for comfort (Crittenden, 2000). These motivate approach with aggression, escape, and approach with requests for comfort, respectively. Any one of these responses might be the most adaptive response to a given situation, but used together they are incompatible and ineffective (Crittenden, & Landini, 2011). By the end of the second year of life, maturation gives children the ability to regulate these feeling states both internally (such that behavior becomes focused) and also interpersonally (such that displayed affect is used to manipulate others' response). Thus, a preschool-aged child might usually approach problems with angry aggression, but, when faced with adults' anger, shift to disarmingly coy bids for comfort (while hiding evidence of anger) (Crittenden, 1997). The Type C strategies include C1 (threatening), C2 (disarming), C3 (aggressive), C4 (feigned helpless), C5 (punitively obsessed with revenge), C6 (seductively obsessed with rescue), C7 (menacing), and C8 (paranoid) (Crittenden, 1999, 2008a). Three points are important:

1. Desire for comfort, anger, sexual desire, fear, and pain constitute a gradient of increasingly arousing affective states that transform arousal into coherent action. The more arousing states become more prominent as

the subscript increases (Critteden, 2008a).

2. As the subscript increases, these states are increasingly generated and maintained by the self (Crittenden, 2008a).

3. As the subscript increases from C1-2 to C7-8, there is an increase in both the extent of distortion of information and also the uniformity with which the strategy is applied to all perceived threats, appropriately and inappropriately (Crittenden, 2008a).

The C1-2 strategy (threatening-disarming) is based both on the reliance on their feelings to lead their behavior, both on the use of negative emotional events a bit exaggerated to influence the others behavior. In particular, the strategy involves split, exaggeration and alternating mixed negative affective states to attract the attention of the others, and manipulate the feelings and the responses. The alternation is between a strong, angry and invulnerable himself, blaming others (C1, 3, 5, 7), and the appearance of a self-frightened, weak and vulnerable, which encourages others to giving aid (C2, 4, 6, 8). C1-2 is a normal strategy, found in low risk mental health problems people, and with a great enthusiasm for life. This sub-strategy is manifested from infancy (Crittenden, 1999).

The C3-4 strategy (aggressive-feigned helpless) involves the alternation of aggression with an apparent inability. The aim of those sub-configurations is to manipulate others with anger or fear. Individuals who use a C3 strategy (aggressive) emphasize their anger to demand obedience of the parental figure. Those who use the C4 strategy (feigned helpless) show incompetence and submission signals. The choleric presentation elicits obedience and guilt in the others, while the vulnerability elicits relief. The precursors of this strategy are visible in early childhood (using the DMM method for the Strange Situation), but the strategy full works only from pre-school. It is an effective strategy to elicit care by inattentive or distracted attachment figures, but it carries the risk of aggressive behaviors (Crittenden, 1999, 2008a).

The C5-6 strategy (punitively obsessed with revenge-seductively obsessed with rescue) is a more extreme form of C3-4 strategy, which involves an active deception to implement revenge or arouse rescue. Although the precursors of this strategy can be seen in school age, the full organization follows puberty and integrates sexual signals with attachment behaviors. Individuals who use this strategy greatly distort the information, in particular blaming others for their situation, and intensifying its negative affective state; the result is a more durable and less resolvable respect the C3-4 strategy (Crittenden, 2008a). Who uses a strategy C5 (punitive) is more cold, distant and self-controlled, and

most liars of people who use C3. They appear invulnerable, and distanced the others' point of view, while forcing others to lend their attention. They are actively misleading, for others and for themselves, about their internal feelings of helplessness and desire for comfort. Individuals using the C6 strategy (seductive) give the appearance of needing rescue from dangerous circumstances that, in fact, are self-induced. The subjects C6 are misleading about their anger. This alternating configuration is frequently found in bully-victim pairs, in gangs, and violent couples (Crittenden, 2008a).

The C7-8 strategy (menacing-paranoid) is the most extreme type C strategies. Subjects C7-8 feel the other like enemy: they can attack anyone, and they are afraid of anyone. All the Type C strategies involve a mistrust of the temporal consequences and an excessive reliance on their feelings. At the extreme, this configuration becomes delirious, with delirious of infinite revenge on enemies (menacing, C7), or the reverse, paranoid about enemies (C8). These two strategies are not organized until early adulthood (Crittenden, 2008a).

4.4.4. Type A/C and AC

A/C strategies combine any sub-patterns, even if most of the A/C strategies consist of a combination of the most distorted configurations, from A3-4/C3-4 and following. Those who use these strategies may show sudden changes in behavior, or, in the case of mixed strategies (AC), mixtures of very fine distortions and deceptions. The extreme of the mixed form of AC is psychopathy (A7-8C7-8) (Crittenden & Landini, 2011).

4.5. Modifiers

Depression, disorientation and disorganization are considering modifiers in DMM (Crittenden, 1999). There are four ways in which a strategy can be modified. When individuals are exposed to danger, they garner new information on its antecedents and context, their behavior and feelings, and consequences. If they discriminate accurately which is unique to the past and relevant to the future (dismissing from representation the irrelevant information and carrying forward the relevant information), they are considered resolved. If they make errors in this discrimination, either dismissing that which is relevant or carrying forward that which is not relevant, they are considered unresolved (U). Dismissing lack of resolution causes signals of danger to be omitted from

representation; this makes prediction less accurate. Preoccupying lack of resolution causes people to respond as if there were danger when there is not (Crittenden, 1999).

1. Depression (Dp) occurs when the individual has concluded that no action will effect any change; arousal drops sometimes in life-threatening ways (Crittenden, 2008a).

2. Disorientation (DO) occurs when sources of information are confused such that the individual's behavior is sometimes in their own best interest and sometimes not, without their being able to identify this. Under these conditions behavior becomes incoherent (Crittenden, 2008a).

3. Disorganized intrusion of negative affect (DX [ina]) occurs when inhibited negative affect intrudes explosively and without coercive interpersonal organization; this increases arousal rapidly and intensely. Such intrusions are only possible in a compulsive Type A strategy, function to reverse depression, and are sometimes associated with psychotic breaks (Crittenden, 2008a).

4.6. Unresolved loss and trauma

Traumatic psychological responses to specific past dangerous event (loss of attachment figures and other threats to the self or to attachment figures) can, on occasion, temporarily interrupt the ability of the individual to protect the self, promote safe reproduction, or protect one's progeny (Bowlby, 1969, 1973,1980). By "trauma" the DMM refers to the psychological experience of emotionally or physically threatening circumstances that cannot be subjected to effective information processing (Crittenden, 2008a). This information-processing perspective makes sense of the fact that children are especially vulnerable to trauma: they are less able to understand the meaning of experiences of danger than adults and less able to store, retrieve, and integrate the meanings they do derive (Crittenden & Landini, 2011). Trauma results in entrenched, systematic errors in processing with the result that either too much irrelevant information is retained (and used to organize behavior), or too much relevant information is discarded, or other errors of thought are made regarding the dangerous event (Crittenden & Landini, 2011). The self-threatening event has not been integrated with respect to current functioning and it interferes with general strategic functioning. Often information in the procedural or imaged memory works as preconscious trigger. When evoked in this way,

recall of unresolved events changes the individual's dispositional representation, causing behavior to become maladaptive under a narrow set of conditions and often leads to increased psychopathology.

Until one understands past threats sufficiently to be able to protect oneself in the future, there is a strong tendency to maintain self-protective responses to the event. In the best circumstances, the threatening information causes mental alertness, which results in integrative mental activity and construction of new and more sophisticated mental and behavioral responses and, when necessary, revision of dispositional representations of self and others. The function of "resolution" is to (Crittenden, 2008a):

1. take forward into the future information that can help to predict, prevent, or protect from danger;

2. leave in the past that which is related only to the past and not relevant to the future.

In less satisfactory situations, threatening information pervades mental processes but without eliciting integrative mental activity that would enable construction of more effective self-protective strategies. Instead, information is split, distorted or manipulated to keep some truth, which is deemed even more dangerous, out of awareness (Crittenden, 1994). Unresolved speakers using dismissing psychological process (with regard to the past danger) refuse to acknowledge the ongoing risk of life. Too much information is left in the past; their lack of resolution involves a continuing effort to exclude that information from awareness and from strategic behavior (Crittenden, 2000). In specific, trauma will thus result in an intensification of a Type A strategy. If affective information is disregarded, imaged or episodic memories are not processed, or semantic information overemphasized, then the result will be a more extreme form of Type A thinking and behavior. This would reinforce tendencies to exclude the emotional significance of the unresolved trauma, producing "dismissed trauma" (Crittenden, 2008a).

In contrast, unresolved speakers who are preoccupied about past trauma or loss refuse to acknowledge the irreversibility of the event and the possibility, in the future, of safety and comfort. Too much information is taken forward; their lack of resolution involves a continuing effort to exclude that information from awareness and from strategic behavior. In specific, trauma will result in an intensification of a Type C strategy. If causal descriptive or prescriptive information is disregarded or imaged, or episodic memories are overemphasized, then a more intensive Type C strategy may be the result, producing "preoccupying unresolved trauma" (Crittenden, 1997).

Yet it is also possible for information processing and behavior to become "nonstrategic for at least a while" (Crittenden & Landini, 2011). A key form of "broken" strategy addressed by Crittenden is "disorientation", a state in which an individual suffers from confusion of information from different sources (e.g., the self now, the self in the past, one's mother, one's religious guide, etc.). Crittenden (2008a) proposes that disorientation is particularly likely as a result of "dismissed childhood traumas." Signs of disorientation indicate that the individual "is anxious to select an effective strategy and does not know how to do that (and up-regulates arousal) (Crittenden & Landini, 2011).

There are several forms of lack of resolution in the DMM, all of which imply an inability to differentiate unique aspects of the past danger from aspects that are relevant to the future. In order from the most dismissing to the most preoccupying, these forms of lack of resolution are: Dismissed forms (Crittenden, 2008a):

1. *Dismissed* trauma or loss is most common among speakers with a basic Type A strategy. The speaker dismisses the importance of the event to the self in terms of preparing for future danger and in terms of feelings.

2. *Displaced* trauma or loss is a form of dismissing in which information about the actual eliciting event is both omitted form processing and also transferred to some other, presumably less threatening, event or person.

3. *Blocked* trauma refers to the presentation by the speaker of otherwise inexplicable details that, taken together, strongly suggest a traumatic experience that the speaker does not acknowledge.

4. *Denied* trauma or loss occurs when very serious and inescapable threats to the speaker's physical or psychological integrity appear to overwhelm the speaker (e.g., being frequently and inappropriately included in discussion of other topics, arousing the speaker intensely). Nevertheless, when queried directly, the speaker denies either the event or its ongoing negative effects.

Preoccupied forms (Crittenden, 2008):

5. *Preoccupying* trauma or loss involves the taking over of mental processing by the self-threatening event. This can be limited to the event itself or the event can be associated with such a wide range of stimuli that it pervades all functioning.

6. *Vicarious* trauma or loss is a form of response in which the speaker neither

experienced nor witnessed the endangering event. Instead, this event occurred to an attachment figure and directly affects their behavior and mental construction of reality.

7. *Imagined* trauma or loss occurs when the speaker proved credible evidence that the even occurred but make an attribution of psychological trauma that is unwarranted (i.e., the speaker makes an erroneous causal attribution).

8. *Suggested* trauma is coded when the interviewer imagines a trauma and inadvertently feeds the speaker ideas and words that the speaker accepts as real. This distortion reflects "borrowed" information that the speaker attributes to the self when the source is actually the therapist (or another authority figure).

9. *Hinted* trauma or loss is assigned when the speaker's cunning placement of details, usually accompanied by submissive ingenuousness, leads the observer to conclude that others have greatly harmed the speaker. Put it another way, the speaker plants the idea in the interviewer's mind while implicitly denying that it happened.

10. *Anticipated* trauma or loss reflects fear that is exaggerated in an irrationally preoccupying manner, for example, fear that one will lose one's child because of the loss of one's mother during childhood.

Other forms (Crittenden, 2008):

11. *Delusionally repaired* trauma or loss involves speakers' delusionally constructing an explanation for endangering events that otherwise would seem to the speaker to be unforgivable, inexplicable, and unrelenting, even into the present.

12. *Delusional revenge or attacks* involve similar transformations as delusional repair, but instead of focusing on future reward for the self, they emphasize punishment of perpetrators.

13. *Disorganized* trauma or loss is assigned:

    a) when the person displays multiple psychological responses to a single traumatic event;

    b) when there are multiple events or deaths that have markers of lack of resolution, do not full qualify as traumatic events, and are

confused in ways that are irrational.

No particular trauma accounts for the psychological effects on the individual, but rather an array of real and imagined attributes of the experiences are connected to almost any other experience, that even tangentially, shares that characteristic (Crittenden, 2000). The effect is to make a very wide range of events a potential trigger for intense emotional responses (Crittenden, 2000).

14. *Depressed* trauma or loss is assigned when the dangerous event of loss is perceived by the speaker to be:

    a) beyond his or her control, both in the event itself and in the process of recovery and reorganization around them;

    b) essential to his or her welfare, psychically or psychologically.

5. DIFFERENCE BETWEEN M&G AND DMM CODING SYSTEM

From a common theoretical foundation established by John Bowlby and Mary Ainsworth, two models of attachment across the lifespan have emerged. Both the Main & Goldwyn model (M&G) and the Dynamic-Maturational Model of Attachment and Adaptation (DMM) assert that patterns established in infancy form an important foundation upon which future attachment strategies are built during childhood, adolescence and adulthood, although the tools used to describe these patterns and their meaning may differ. The similarities and differences between these two models are highlighted in this chapter.

5.1. Similarities

Having presented an overview of the two classification systems of infant and adult attachment, we are better able to identify similarities and differences between the M&G and DMM models of attachment. Both models are formulated on Ainsworth's original ABC classification, and are predicated on the belief that patterns of maternal sensitive responsiveness influence subsequent infant attachment, with the strongest continuity demonstrated secure (B) patterns of attachment (Shah, Fonagy & Strathearn, 2010). Both models classify infant attachment using Ainsworth's SSP, identity patterns of security (B) and insecurity (A, C), and incorporate an expansion of Ainsworth's original classification system to explain anomalous behavior of infants. Both models incorporate a focus on developmental processes by which patterns of infant attachment play a substantive role on later developmental trajectories and cutcomes, but the models place differential emphasis on the predictive capacity of infant attachment on later emotional development. Finally, both models expanded Ainsworth's work in infant attachment by exploring the association between adult representations of attachment and subsequent infant attachment patterns.

5.2. Differences

There are several substantive differences between the M&G and DMM approaches to attachment (Crittenden 2004; Landa & Duschinsky 2013).

10% of infant, in the early SS coding system, were unable to be classified in the original ABC classification system (Sroufe & Waters 1977). These unclassifiable behaviors were identified in both low-risk and high-risk samples which were characterized by "odd" and "conflicted" behaviors in the SSP that appeared to lack an organized strategy to deal with the circumstances. Additional work by Mary Main (Main & Hesse 1990) identified 13% of infants in their low-risk sample to be unclassifiable in the SSP according to the original method of Ainsworth, with what appeared to be an over-assignment of infants to Type B, secure attachment.

To resolve this problem, two of Ainsworth's students, Mary Main and Patricia Crittenden, expanded Ainsworth's classificatory system by developing new categories and coding guidelines.

Mary Main expanded Ainsworth's original classificatory system with her addition of a fourth category called "disorganized" attachment in infancy (Type D) (Main & Solomon 1990) as well as "unresolved" and "cannot classify" categories in adulthood (Hesse 1996; Main 2000). Main theorized that disorganized infant attachment had its origins in maladaptive early caregiving experiences, characterized by threatening parental behavior toward the infant, or by frightened parental behavior in response to the infant. Main proposed that having a frightened or frightening mother made it for the infant to organize a coherent pattern of attachment, and the result was an incoherent or disorganized strategy (Main 1995, 1996). Disorganization was initially described in a normative sample of 12-month-old infants who demonstrated conflicted or anomalous behavior during reunions in the SSP (Main & Solomon 1990).

According to Main, the infant's anomalous behavior reflected the lack of a strategy to manage fear associated with the caregiver's frightening behavior: the infant's fear could not be deactivated by a shift in attention, that is, Ainsworth's A (avoidant) pattern, nor could it be ameliorated through approaching the caregiver, that is, Ainsworth's B (secure) and C (ambivalent) patterns. Furthermore, Main theorized that the caregiver's frightening behavior related to a history of unresolved loss or trauma and was, in fact, a maladaptive response to a history of traumatic memories (Main & Hesse 1990).

Table 5.1. Indices of Disorganization/Disorientation

(Main & Solomon 1990)

I	Sequential display of contradictory behavior patterns
II	Simultaneous display of contradictory behavior patterns
III	Undirected, misdirected, incomplete, and interrupted movements
IV	Stereotypies, asymmetrical movements, mistimed movements, and anomalous postures
V	Freezing, stilling, and slowed movements and expressions
VI	Direct indices of apprehension regarding the parent
VII	Direct indices of disorganization or disorientation

Patricia Crittenden's *Dynamic-Maturational Model* (DMM) (1994, 1999, 2008a, 2008b; Crittenden & Landini, 2011), has emerged as an alternative paradigm and has seen widespread use as a psychological theory, informing clinical and social interventions as well as research. DMM does not consider the U pattern, but describe specific patterns *Unintegrated* (A/C) or *Anti-integrated* (AC), characterized by an alternation of typical behaviors of both configurations *Dismissing* (A) and *Preoccupied* (C) and often associated with behavioral or psychological problems of the child or the parent and family conditions of neglect, maltreatment or abuse. Below is a table showing correspondence between Strange Situation, M&G-AAI and DMM-AAI classificatory systems (Tab. 5.1.).

Table 5.2. Different models in comparison (Baldoni 2010a)

Ainsworth (SS)	**Main e Goldwyn (AAI)**	**DMM (AAI)**
B – Secure	F – Free	B – Balanced
A – Avoidant	Ds – Dismissing	A – Dismissing low sub patterns (A1-2) high sub patterns (A3-8)
C – Ambivalent	E – Entangled	C – Preoccupied low sub patterns (C1-2) high sub patterns (C3-8)
D – Disorganized	U – Unresolved	A/C – Unintegrated AC – "Anti" integrated

Crittenden noted that abused and neglected cases tended to show an A/C pattern as do a few who are only abused and also a few who only neglected.

In a recent analysis of the DMM (Landa & Duschinsky, 2013), it is argued that the main disagreement between Main and Crittenden is widely and incorrectly believed to lie in Crittenden's rejection of the idea of attachment "disorganization" in infants. In the place of "disorganization," Crittenden is understood to instead consider infants displaying such behaviors to be showing "organized" combinations of avoidant and resistant attachment strategies (Groh et al., 2012). However, the major divergence is better understood to lie in the different meanings Main and Crittenden give to the concepts of "attachment organization" and "adaptation." (tab. 5.3.).

To explain anomalous infant behavior in the Strange Situation Ainsworth changed the use of the term "organization" to mean behavior that, under conditions of perceived threat and the activation of the attachment system is oriented toward maintaining the availability of the attachment figure. Crittenden followed Ainsworth in this changed usage, applying it also to infancy. Whereas Main saw physical proximity as the set goal of the attachment system, and hence behavior oriented toward proximity as "organized", Crittenden took the availability of the caregiver as the set goal of the attachment system when activated by the perception of threat, even in infancy (Crittenden, 2000).

Table 5.3. Difference between DMM and M&G method of classification

	DMM-AAI	M&G-AAI
Intent	Describe the self-protective strategies and patterns of mental processing of speakers	Predict infants' patterns of attachment
Outcome classifications	Larger set of classifications, permitting greater differentiation among individuals with psychological disorders	Fewer classifications, derived from normative populations
Treatment of non-Ainsworth classifications	Six compulsive Type A strategies (A3-8) and six obsessive Type C strategies (C3-8), plus a full array of combinations of these	Most non-normative individuals fall in three classifications (E3, U/E3, and "Cannot Classify")
Patterns versus ratings	Use of patterns within and among memory systems	Use of ratings of constructs
Functions versus defined meanings	Utilize the function of discourse markers to define meaning	Assigns meanings to discourse markers

Memory Systems	Assessment of six memory systems (procedural, imaged, sematic, connotative language, episodic, and reflective integration)	Assessment of three memory systems (semantic, episodic, and working)
Modifiers	Six modifiers with 14 forms of lack of resolutions of trauma or loss	Only preoccupied lack or resolution of loss or trauma
Validity	Primarily based on clinical samples and differentiation among disorders	Primarily based on normative samples and prediction from mothers to infants

Although attachment behaviors would not necessary always succeed, Crittenden theorized that the behaviors instigated by the attachment system would aim, when possible, to maintain the availability of the attachment figure as a source of protection.

This conclusion was also defined by differing accounts of the term "adaptation". Main, Tomasini, and Tolan (1979) have restricted the term "adaptive" to explanations of why behavioral systems might have evolved for a species. Crittenden, by contrast, used the term "adaptation" as a heuristic for interpreting what function a behavior may have for maintaining the caregiver's availability. Hence whereas Main saw combinations of A and C behavior as "disorganized," because they appeared to evidence behavioral breakdown instead of a coherent strategy for seeking proximity, Crittenden considered such combinations "organized" "adaptations," as a result of her different definition of both terms.

Crittenden has expanded the range of assessment tools to include the preschool and childhood years, as well as adolescence (Crittenden & Landini 2011).

Recent studies confronting different models of attachment assessment in high-risk and clinical samples (Crittenden, Claussen, & Kozlowska, 2007; Spieker & Crittenden, 2009; Crittenden, & Newman, 2010; Shah, Fonagy, & Strathearn, 2010) suggest that the Unresolved/disorganized pattern (U/d) corresponds in the DMM to these specific, different and organized patterns in the DMM. Taken together, then, the DMM high-risk patterns should match with the encoding of U/d when an AAI is coded using the M&G system.

Although several studies have directly compared these two models (Crittenden, Claussen, & Kozlowska 2007; Crittenden & Newman 2010; Spieker & Crittenden 2009), additional studies are needed which incorporate long-term outcomes associated with each.

5.2.1. Continuity vs. discontinuity

One of the critical differences between the M&G model and the DMM is the degree to which infant attachment is thought to predict later patterns of attachment. Although the M&G model has accounted for discontinuity of attachment classification over time, especially with changes in caregiver availability (Weinfeld et al. 2000), initial conceptualization of infant attachment using the Ainsworth classification was predicated on the belief that when viewed organizationally, patterns of infant attachment were predictable across circumstances, and largely stable over time (Sroufe & Waters I977; Waters I978). The DMM differed in this belief that an infancy-based model could describe human behavior in adulthood. Thus, the DMM approach was formulated on the premise that attachment patterns over time were influenced by maturational shifts and neurological changes that resulted in variable developmental pathways (in which discontinuity is expected), rather than a continuity of individual patterns (Crittenden, 2000).

The M&G and DMM models also differ in their organizational conceptualization of attachment patterns. The M&G model describes patterns of infant attachment categorically (A: avoidant; B: secure; C: ambivalent; D: disorganized) whereas the DMM describes patterns of attachment that vary dimensionally along a cognition-affect continuum. In the DMM, patterns of attachment are conceptualized as self-protective strategies that are learned through interaction with attachment figures. The learning itself is based on both temporally ordered information (termed "cognition") and the intensity of stimulation (termed "affect"), as these are processed through various parts of the brain (Strathearn 2007, 2011; Strathearn et al. 2009). That is, information processing yields DRs that, in turn, organize self- protective behavioral strategies (Crittenden 1990). In the DMM model, a "cognitive" pattern of attachment is used to describe attachment that emerges in response to predictable, temporal contingencies. Conversely, an "affective" pattern develops when feelings and emotions appear to organize and motivate behavior. A Type B (balanced) pattern is seen when infants utilize both affective and cognitive strategies to organize behavior.

The DMM model in infancy describes attachment patterns that progress along a continuum from primarily cognitive to affective strategies: A1-2 > B1-2 > B3 > B4-5 > C1-2, with the classification A/C used to describe patterns of attachment that are unintegrated or where different strategies are employed in different contexts (Crittenden 2000).

Both models also address the role of fear shaping infant patterns of attachment, but the M&G model views fear as a "disorganizing" strategy, wherein fear of the caregiver prevents the infant from formulating a coherent (i.e. organized) pattern of attachment, and a disorganized pattern emerges. Conversely, in the DMM model, fear is conceptualized as an organizing strategy to foster self-protection, and the infant's behavioral strategies will vary based on the caregiver's behavior and on which memory system is activated most strongly (Crittenden 1999).

5.2.2. Definition of "secure" attachment

The M&G and DMM models differ in their conceptualization of the process of becoming securely attached. Both Main and Crittenden conceptualize Type B attachment as the most balanced, and the least vulnerable to psychopathology (Crittenden 2006; Main 2000). Main believed that secure infant attachment emerged in the context of maternal contingency and sensitive responsiveness to the infant's signals, which was manifest by the infant's organized ability to seek proximity to the mother when distressed, and engage in exploration of the environment when not distressed (Main 2000). In addition, however, Crittenden conceptualized that infants develop organized strategies through a process of integration of both cognitive and affective information, involving a relative reliance on the two types of information (affect or cognition) and a degree of integration of the information and corresponding representations. In this regard, in the DMM, the distinction between security and insecurity is not as sharply dichotomized as in a categorical M&G model but, rather, varies along a dimensional continuum.

Understanding the meaning and function of these attachment strategies will also assist us to move beyond the simplistic notion of "secure is good" and "insecure is bad", to a realization of how attachment can be adaptive and help to compensate for trauma and adversity throughout life.

5.2.3. Changes in attachment over time

Other differences between the Main and Crittenden models include whether early conditions largely determine later outcomes (developmental trajectory) or whether experience has a cumulative and dynamic effect (developmental pathways); whether individuals have a single enduring IWM or multiple, situation-specific DRs; and whether a four-category model based on infancy can describe attachment at later ages, or whether additional patterns are needed (Shah et al. 2010).

5.2.4. Intergenerational transmission

Regarding the mother-to-infant (intergenerational) transmission of attachment patterns or strategies, the M&G model differs most notably from the DMM in its presumption of continuity of attachment patterns from caregiver to child (Van Ijzendoorn, 1995), whereas the DMM model anticipates that sentinel life events may catalyze a change in attachment (e.g. after childbirth, or with effective psychotherapy). Infants may adopt a different pattern of attachment from their caregiver, if that is most adaptive for them. In fact, rather than demonstrating continuity with caregiver attachment, some infants have been shown to organize the opposite pattern from their mothers (Shah et al. 2010).

Part 2

6. HYPOTHESIS

The first part of the thesis underlines the similarities and the differences between the two most popular AAI coding systems.

Few studies have examined how the adult attachment classifications resulting from the Adult Attachment Interview (AAI) may differ in relation to the various classification systems: these studies, confronting different models of attachment assessment in high-risk and clinical samples (Crittenden, Claussen, & Kozlowska, 2007; Crittenden & Spieker, 2009; Crittenden & Newman, 2010; Shah, Fonagy, & Strathearn, 2010), suggest that the Unresolved/ disorganized pattern (U/d) corresponds in the DMM to these specific high-index, different and organized patterns in the DMM. Taken together, then, the DMM high-risk non-normative patterns should match with the encoding of U/d when an AAI is coded using the M&G system. The DMM, in fact, doesn't consider the "disorganized" category, and fear is treated as a powerful organizing affect (Crittenden, Claussen, & Kozlowska, 2007; Crittenden & Spieker, 2009; Crittenden & Newman, 2010; Shah, Fonagy, & Strathearn, 2010). This differs from the M&G model, which considers fear to be a disorganizing mechanism (Main & Hesse, 1990). For these reasons, the M&G and DMM models differ in their organizational conceptualization of attachment patterns. The M&G model describes patterns of infant attachment categorically (A: avoidant; B: secure; C: ambivalent; D: disorganized) whereas the DMM describes patterns of attachment that vary dimensionally along a cognition-affect continuum.

In the DMM, the three original Ainsworth configurations (A, B, C) are maintained, but, in some cases, they are organized in mixed AC and A/C combinations. Threatened children and adults usually show "organized" attachment strategies that reflect high-index Type A or C patterns (A3-8 and C3-8) (Crittenden & Landini, 2011), defined respectively as "Compulsive A+" or "Obsessive C+", that refer to A or C strategies with increasingly distorted level of cognition and affect. These high-index and "non-normative" DMM patterns, very different in their configuration, are often associated with behavioral or psychological alterations and family conditions of neglect, maltreatment or abuse (Shah & Strathearn, 2014; Crittenden, 2015a, 2015b).

The aim of this study was to compare the M&G and the DMM as different AAI coding systems, and to examine the hypothesis that their classifications present some kind of association. In particular, we explored their ability to discriminate the attachment security and the possible association between the Unresolved/disorganized pattern (U/d) in M&G system and the high-index non-normative attachment patterns (A+, C+, mixed high-index AC and A/C) or the markers of Unresolved losses or traumas (U/Tr, U/l) in the DMM.

The research hypothesis are:

1. A positive association between Free/Autonomous (F) pattern in M&G system, and Normative patterns (B, A1-2, C1-2) in the DMM. The M&G and DMM models differ in their conceptualization of the process of becoming securely attached (Crittenden 2006; Main 2000). M&G models believed that secure infant attachment emerged in the context of maternal contingency and sensitive responsiveness to the infant's signals (Main 2000). The distinction between security and insecurity is dichotomized in M&G model. DMM models conceptualized that infants develop organized strategies through a process of integration of both cognitive and affective information. The distinction between security and insecurity varies along a dimensional continuum.

2. A positive association between M&G disorganized or unorganized pattern (Unresolved/disorganized, U/d and Cannot Classify, CC), and DMM high-risk patterns (A+, C+, A/C & AC), in according with studies confronting different models of attachment assessment in high-risk and clinical samples (Crittenden, & Landini, 2011; Shah, & Strathearn, 2014).

3. A positive association between M&G Unresolved/disorganized (U/d) pattern and the presence of unresolved losses or traumas modifiers (Utr&l) in the DMM. Traumatic psychological responses to specific past dangerous event can, on occasion, temporarily interrupt the ability of the individual to protect the self, promote safe reproduction, or protect one's progeny (Bowlby, 1969, 1973,1980). Both models underline the role of Losses and traumas in the development of the Internal Working Models, but M&G system considers them a source of disorganization, while DMM system considers them as modifiers of organized patterns.

7. METHODS

7.1. Overview

This study is a part of the *Bologna Attachment Assessment Project*, organized by the Attachment Assessment Lab of the Department of Psychology, University of Bologna, in collaboration with the Kore University of Enna, the Department of Clinical and Experimental Sciences, University of Brescia, and the Neonatal Intensive Care Units and the Gynecological Units of the Infermi Hospital of Rimini and the Civile Hospital of Brescia, Italy.

7.2. Material

The Adult Attachment Interview (AAI) (George, Kaplan, & Main, 1984-1996) is a semi-structured interview based on a series of open questions regarding the relationship between the interviewee and his/ her attachment figures during childhood. Its purpose is not to get a detailed history of the person's childhood, but to identify the configuration of the thought on the attachment relationship. The whole interview is audio-recorded and then transcribed *verbatim* pointing out verbal and non-verbal aspects such as silence, pauses, babbling and speech insecurity.

7.3. Participants

The AAI was administered to 100 subjects (50 males and 50 females) aged from 23 to 61 years (M=35.77, SD =5.85). Participants were couples of parents recruited as part of a research program exploring the influence of parental attachment and sensitivity on the psycho-motor development of newborns (Baldoni, 2013b; Baldoni et al. 2009, 2011, 2014). Subjects from other countries, immigrants, and people who were not Italian native speakers were excluded from the study.

7.4. Procedures

The research protocol involved the administration of various instruments, including the AAI. All subjects were members of a couple, were parents of newborns, and came from Northern and Central Italy. Participants were contacted during a periodic consultation in the hospital immediately after the birth of their baby. They were informed on the topic of the study and completed a document stating that they agreed to participate in the research. Medical or psychiatric disorders were excluded by a preliminary clinical consultation. The AAIs were administered at six months from the birth in a dedicated and quiet hospital room by properly trained AAI administrators. Ten interviews resulted incomplete or impossible to transcribe due to bad audio quality, and therefore they were excluded from the current study. Subsequently, the interviews were coded by four different trained and officially reliable coders, two following the M&G criteria and the others following the DMM criteria. All coders were unaware of the participants' histories and personal characteristics. The data were statistically analyzed, comparing them in different ways following the M&G codings and the DMM codings.

7.5. Statistical Analysis

Descriptive statistics were computed for all the variables in this study. We examined inter-rater agreement between M&G coders and between DMM coders using the restrictive rules of Cohen's k (Cohen, 1960). We then used the χ^2 non-parametric test to compare M&G and DMM classifications, in accord with other studies of comparisons between the M&G-AAI and the DMM-AAI methods (Crittenden, Claussen & Kozlowska, 2007; Crittenden & Spieker, 2009; Crittenden & Newman, 2010).

8. RESULTS

The 90 participants (45 females, 45 males) whose AAI was complete ranged in age from 23 to 61 years (M=36.00, SD=5.80). Their average level of education was of 13.50 years (SD=3.78), most of them were married (86.7%) and were full-time or part-time workers (95.4%). In most cases (62.2%), the newborn was their first child.

No significant differences emerged using both models between attachment classifications about sex, level of education, or work.

8.1. Frequencies

8.1.1. M&G frequencies

The inter-rater reliability was high for M&G coders ($k = .88$, $t = 12.71$, $p < .001$).

In the M&G classification system, 57 (63.3%) of these participants were classified as Free (F), 12 (13.3%) as Dismissing (Ds), 7 (7.8%) as Entangled (E), and 14 disorganized or unorganized (15.5%): Unresolved/disorganized (U/d, N=11, 12.2%), Cannot Classify (CC, N=2, 2.2%), or both (U/CC, N=1, 1.1%) (Figure 8.1.).

Figure 8.1. M&G coding system frequencies
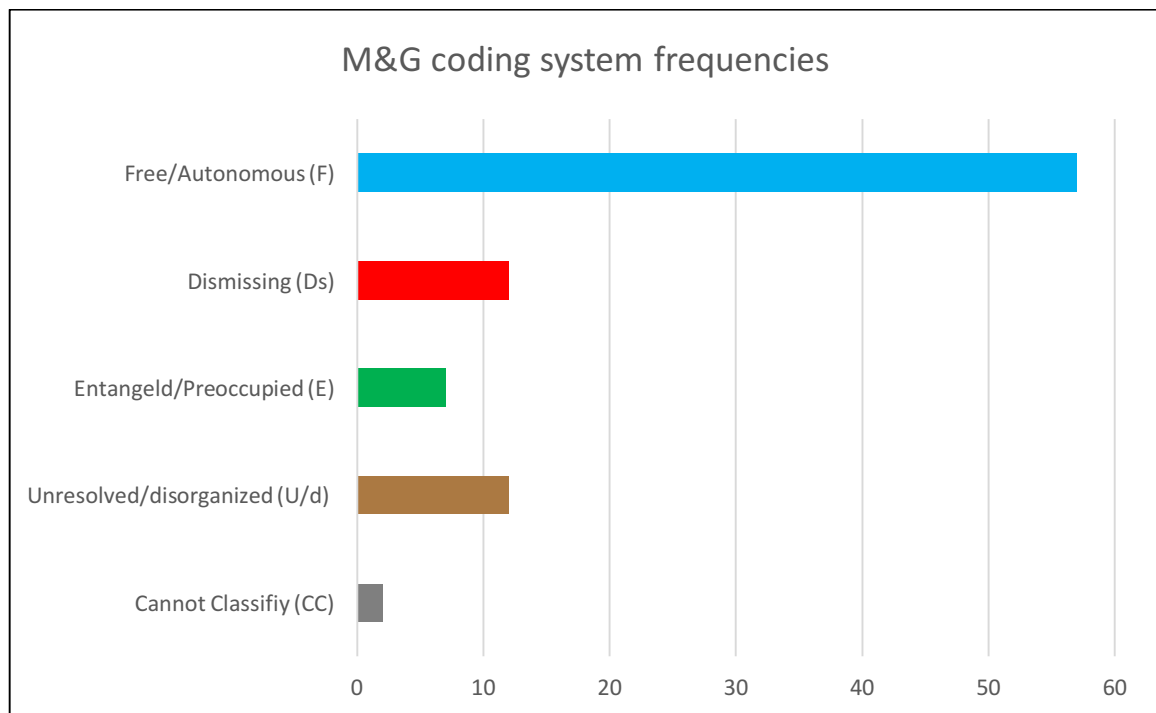
These data are in line with the literature on the distributions of adult attachment representations in non-clinical samples (Bakermans-Kranenburg & van IJzendoorn, 2009) (Figure 8.2.).

Figure 8.2. Comparison between this study and literature review

(Bakermans-Kranenburg & van IJzendoorn, 2009)
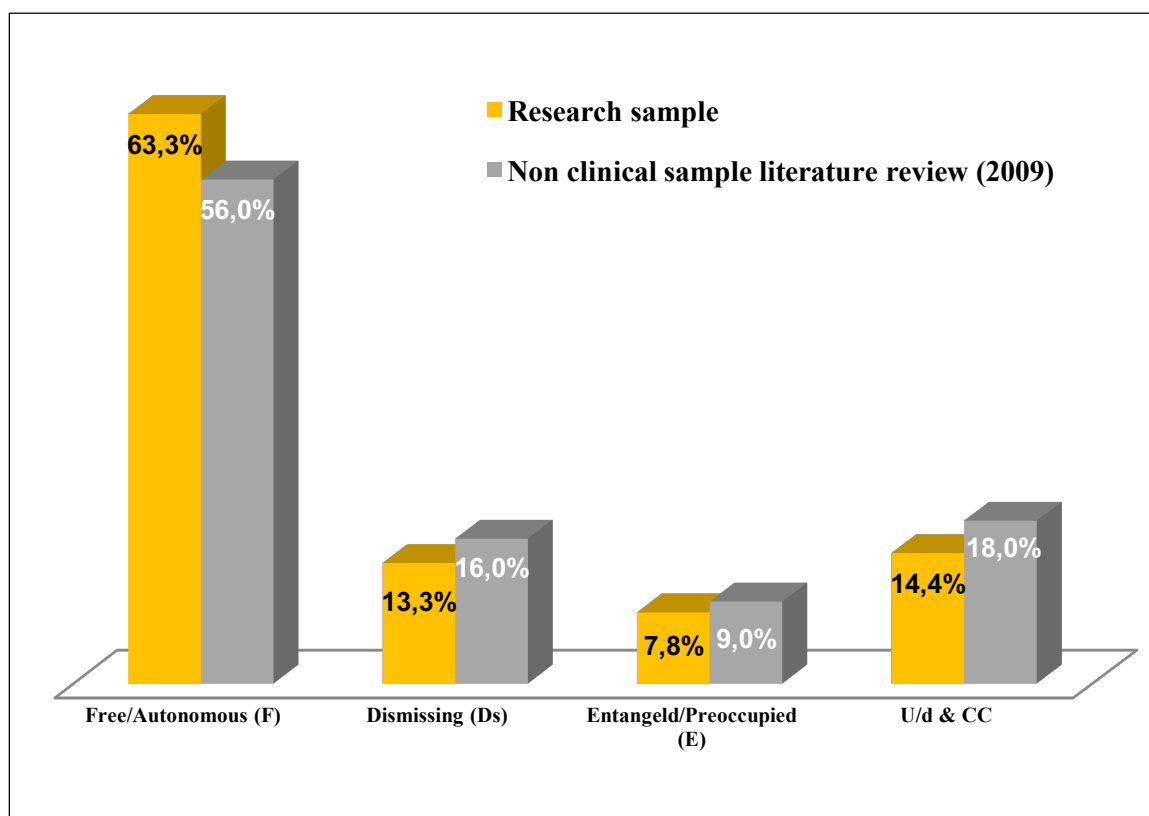
8.1.2. DMM coding system frequencies

The inter-rater reliability was high for DMM coders ($k = .94$, $t = 14.40$, $p < .001$).

In the DMM system, 29 participants (32.2%) were classified as Balanced (B), 35 (38.9%) as Dismissing (A), 13 (14.4%) as Preoccupied (C). 21 of 35 Dismissing AAI are high index pattern (A+) and 6 of 13 Preoccupied AAI are high risk pattern (C+) (Figure 8.3.).

13 AAI (14.4%) present a mixed pattern (AC or A/C). At the DMM, indications of high-index attachment patterns (A+, C+, mixed high-index AC and A/C) were present in 36 cases (40%), and indicators of trauma or loss (U/tr or U/l) were present in 40 cases (44.4%) (Figure 8.4.).

Figure 8.3. DMM coding system frequencies

DMM coding system frequences

- Balanced (B) - 29
- Preoccupied (C) - 7
- Obsessive C+ - 6
- Mixed (A/C & AC) - 13
- Compulsive A+ - 21
- Dismissing (A) - 14
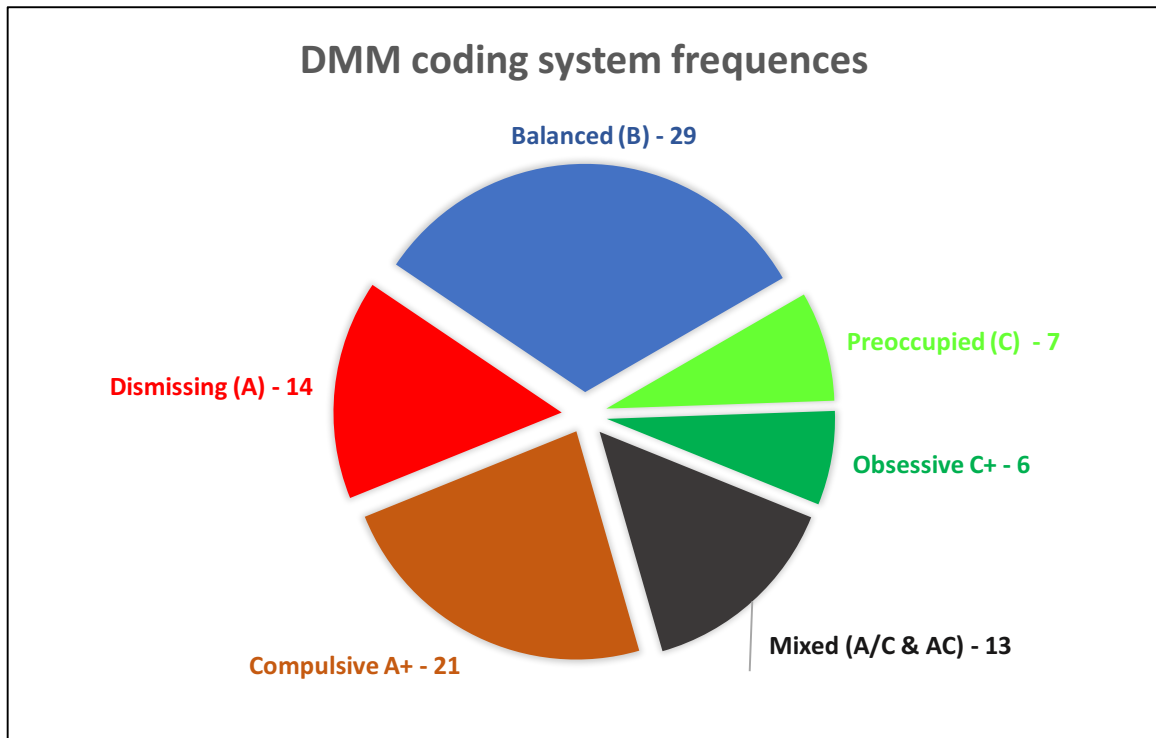
Figure 8.4. Presence of loss and/or trauma (Ul & Utr) in DMM coding system

44,4%	66,6%
Presence of loss or trauma	**No loss or trauma**
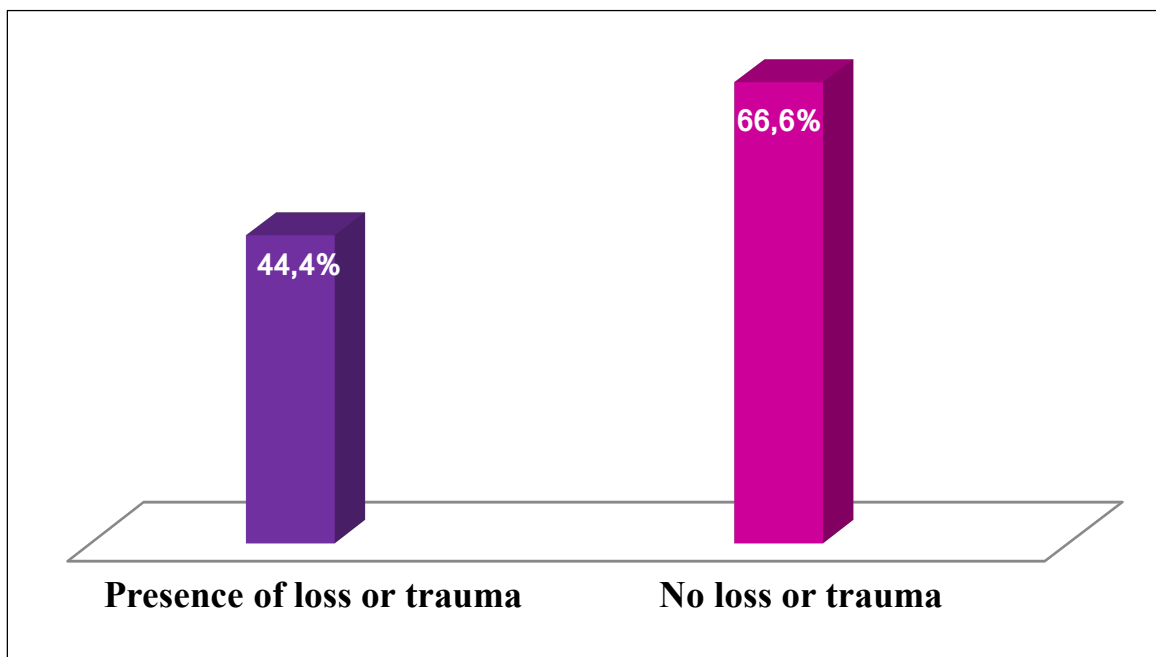
Unfortunately, in literature there are no sufficient data to compare our results with clinical samples, because DMM is a less popular model respect M&G, therefore we can only compare DMM distributions with M&G distributions in our non-clinical sample.

8.1.3. Frequencies comparison

Compared to the DMM, using the M&G model subjects present a secure pattern more frequently (63.3 vs 32.2%) and the dismissing pattern less frequently (13.3 vs 38.9%) (fig. 8.5.).

Figure 8.5. M&G and DMM coding systems frequencies
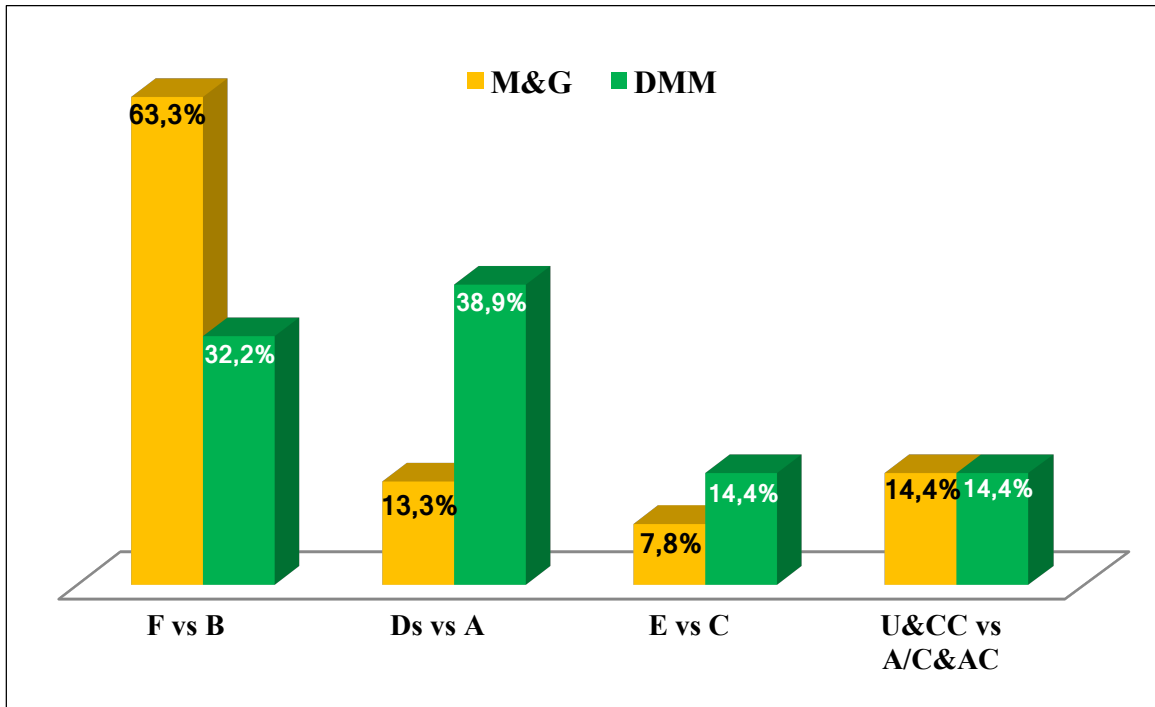
Figure 8.6. M&G and DMM normative (B, A1-2, C1-2) coding system frequencies
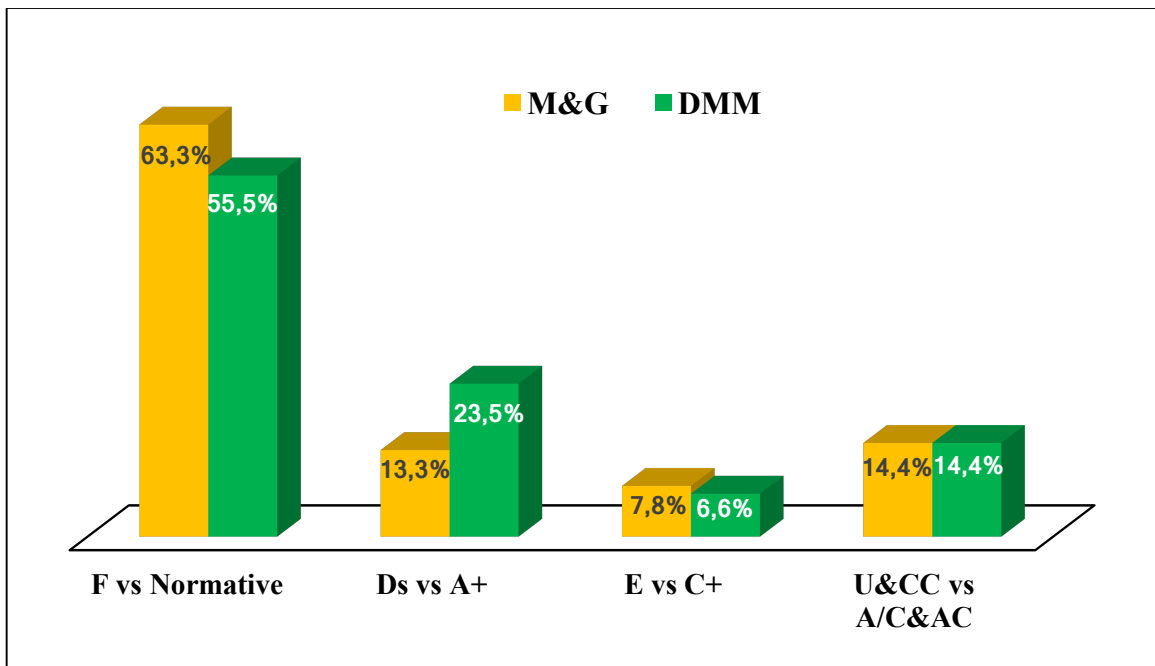
In DMM, low index dismissing and preoccupied subjects are considered "normative", as opposed to high index dismissing and preoccupied subject who are considered psychosocial high-risk. Considering the DMM normative subjects as a group (B, A1-2, C1-2), the distribution appears more like the M&G model (Figure 8.6.).

8.2. Association between M&G and DMM coding system

No significant associations were found between the M&G and the DMM classifications in 4-way analyses. Comparing the AAI patterns according to the two classification systems, we found no significant associations in the participants' AAI classifications (χ2 = 15.19, p = .09, n.s.) (Table 8.1.).

Table 8.1. Crosstabulations of AAI pattern distributions across M&G and DMM (N= 90)

DMM M&G	Balanced (B)		Dismissing (A)		Preoccupied (C)		Mixed AC - A/C	
	N	%	N	%	N	%	N	%
Free (F)	20	(35.1%)	24	(42.1%)	7	(12.3%)	6	(10.5%)
Dismissing (Ds)	3	(25.0%)	5	(41.7%)	0	(0.00%)	4	(33.3%)
Entangled (E)	0	(0.00%)	2	(28.6%)	3	(42.9%)	2	(28.6%)
Unresolved (U/d) & Cannot Classify (CC)	6	(42.9%)	4	(28.6%)	3	(21.4%)	1	(7.1%)

Note: the percentages refer to the DMM classifications

that correspond to the M&G classifications

Then, we explored whether the 11 M&G Unresolved/disorganized (U/d) attachment classifications were associated with the 40 DMM cases in which indicators of loss or trauma (U/Tr, U/l) were present. Notably, the analysis resulted in a lack of significant associations between M&G U/d classifications and DMM U/Tr or U/l indicators (χ^2 =1.50, p = .22, n.s.), with a weak contingency coefficient of C= .13 suggesting that the two coding systems attribute different meanings to trauma and its potential resolution in their respective classifications (Table 8.2.). In fact, as table 2 shows, 6 out of 11 AAIs (54.5%) classified as unresolved (U/d) in the M&G system resulted Balanced (B) or in course of reorganization to B (R>B) using the DMM.

Table 8.2. Association between M&G U/d pattern (11 AAI) and DMM

U/E3/E1	(R)C1>B		U/F4/F3	B2
U/CC/E1	(R)C3>B5		U/Ds3	B3
U/F4	A2(4)		U/Ds3	A1
U/E1/E2	B4-5		U/E2/F4b	Ul&tr A3(7)
U/F4b	Ul&tr(p,dp,ds) A3-4 [ina]		U/F4/E1	B4
U/E1/F5	(R)Ul(p) C3>B2			

Note: green boxes=match; red boxes=no match

The Cannot Classify (CC) attachment classification, conversely, are associated with DMM High-risk classifications and the presence of loss and trauma (in particular, sexual abuse, SA) (Table 8.3.). Unfortunately, we have only two cases, and we cannot make statistical inferences.

Table 8.3. Association between M&G CC pattern (2 AAI) and DMM

CC/Ds4/E1	(Dp) Ul&tr(dx,dpl) A6/C3 [ina]		CC	Utr(ds)SA C5-6

Note: green boxes=match; red boxes=no match

When we examined whether the disorganized and Cannot Classify (CC) attachment representations according to the M&G model were linked to the non-normative attachment strategies (A+, C+, mixed high-index AC or A/C) according to the DMM model, we found no significant association between the two coding systems ($\chi^2 = .54$, $p = .46$, n.s.). In particular, 21 AAIs out of 57 (36.8%) classified as Free (F) in the M&G system resulted non-normative in the DMM (A+, C+, A/C & AC), and 9 out of 41 (21.9%) AAIs normative in the DMM (B, C1-2, A1-2) resulted disorganized or CC in the M&G system.

Table 8.4. Association between DMM A+ pattern (21 AAI) and M&G

A4	Ds1/U		Utr(p) A4(6)	Ds1
(Dp) A3-4 (5-6)	F4b/U		Ul(p) A4	F2
Ul(ds.p) A3-4	F5/F2		Utr(n) A3	F2
Ul (ds,p) A3-4	F2/F4b		Ul&tr(ds,p) A3	F2/F3
Ul&tr (ds,p) A3	F3		Ul&tr(ds,a) A3(7)	U/E2/F4b
Ul&tr(s,ds) A+ [ina]	F4a/E1		Ul(a) A3	E1/E2
(Dp) Utr(s)PA A3-4	F5		(Dp) Ul&tr (b,s) A5	Ds2/Ds3
Utr(dx)SA C5-6	F5		(Dp) Ul&tr (ds) A3-4-5	Ds3/Ds2
(Dp) A3-4	F2/E1/E2		(Dp) Ul(ds) A3-4	F2/F5
Ul&tr (p,dp,ds) A3-4 [ina]	U/F4b		Utr(b)PA A3-4	F2/F5
(Dp) Ul(a) A4(6)	E1			

Note: green boxes=match; red boxes=no match

Only 6 out of 21 (28.6%) DMM compulsive A interview (A+) linked to M&G Dismissing (Ds), Unresolved/disorganized (U/d) or Cannot Classify (CC) pattern (Table 4). In addition to this, 13 out of 21 (61.9%) DMM A+ AAI are classified Free/Autonomous (F) with the M&G system (Table 8.4.).

Likewise, 1 of 6 (16%) DMM obsessive C interview (C+) linked to M&G Entangeld/Preoccupied (E), Unresolved/disorganized (U/d) or Cannot Classify (CC) pattern (Table 5). Also in this comparison, 4 out of 6 (66.6%) DMM C+ AAI are classified Free/Autonomous (F) with the M&G system (Table 8.5.).

The total count highlights that not only the analysis resulted in a lack of significant associations between DMM high-index pattern, but 17 out of 27 (63%) A+ & C+ AAI fall into M&G Free/Autonomous pattern.

Table 8.5. Association between DMM C+ pattern (6 AAI) and M&G

Utr(n)PA C5	F2/F1b	Ul(v) C3-4(5-6)	F2
C3-4	F2/F1b/Ds1	Ul&tr(ds,dx)SA C5-6	Ds1/U
Utr(ds)SA C5-6	CC	C3-4	F2/F3

Note: green boxes=match; red boxes=no match

Table 8.6 focused on the association between DMM mixed pattern and M&G system. This association was already explained in the cross tabulations of AAI pattern distributions (Table 1), but this table is added to the last two tables and shows in more detail a lack of association between DMM high risk pattern (A+, C+, A/C & AC) and M&G system.

Overall, 23 out of 40 (57.5%) DMM high risk pattern are classified into M&G Free/Autonomous (F) pattern and only 8 out of 40 (20%) matched with M&G coding system.

Table 8.6. Association between DMM mixed pattern (A/C & AC)

(13 AAI) pattern and M&G

(Dp) Ul&tr(dp) A3-4/C2	F3/U	A1C1	Ds1
Ul(a,p) A2(3)/C3	F4b/U	A2(4)C1	Ds3
(Dp) Ul&tr(dx) A6/C3 [ina]	CC/Ds4/E1	Ul(p,dx) DO [A1-3-4/C5-6]	F1
Ul(p) A2(3)/C3	E1	A1(3)C3	Ds1/Ds2
Ul&tr(ds,p) A1(3)C3-4	F2/F5	DO [A3-4 C3-4]	E1
Ul(ds,P) DO [A1,2,3,4 C1,2,3,4]	F5/F1a	Ul(dx) A3-4 C3-4	Ds3
A2C1	F4a		

Note: green boxes=match; red boxes=no match

The only significant association between the two coding systems emerged when we excluded from the analysis all the cases involving M&G disorganized and/or competitive attachment classifications (U/d and CC), and all the cases involving DMM non-normative classifications (A+, C+, mixed high-index AC and A/C), which resulted in 41 comparable cases. In this analysis involving only subjects who displayed organized, adaptive to the context, and non-competitive attachment classifications in both models, the association between the two coding systems resulted significant ($\chi^2 = 19.31$, $p = .001$), with a moderate contingency coefficient for the association of $C=.57$. The pattern of associations between the M&G and the DMM coding systems for this analysis is displayed in Table 8.3.

Table 8.7. Crosstabulation of AAI normative pattern distributions (N=41)

DMM	Balanced (B)	Dismissing (A1-2)	Preoccupied (C1-2)
M&G	N	N	N
Free (F)	20	11	3
Dismissing (Ds)	3	1	0
Entangled (E)	0	0	3

Note: $\chi^2 = 19.31$, $p = .001$

As Table 8.7. shows, even in the case where all non-normative, mixed high-index, disorganized and/or alternating competitive attachment pattern classifications were excluded from the analysis, the DMM coding system tended to identify more A or C attachment strategies. More in detail, the DMM identified more Dismissing (A) patterns of attachment than the M&G did for Dismissing (Ds) attachment, and the vast majority of these dismissing classifications (91.67%) in the DMM were classified as Free/Autonomous (F) by the M&G. The DMM also identified 6 cases of Preoccupied attachment (C), whereas the M&G identified only 3 cases of Entangled representations (E). However, all the Entangled (E) classifications in the M&G were identified as Preoccupied (C) by the DMM.

9. DISCUSSION

The main goal of this study was to compare the M&G and the DMM-AAI coding systems and test their characteristics considering, in particular, the possible association between Free/Autonomous (F) pattern in M&G system with Normative patterns (B, A1-2, C1-2), and the possible association between Unresolved/disorganized (U/d) and Cannot Classify (CC) patterns in M&G system with non-normative patterns (A+, C+, mixed high-index A/C and AC) and modifiers for Unresolved loss and trauma in the DMM (Crittenden & Landini, 2011; Shah & Strathearn, 2014).

In our research, many problems arose in comparing these models as coding systems of the AAI: overall, only 29 out of 90 AAI (32.2%) have the same pattern of attachment (F with B, Ds with A, E with C U/d & CC with A/C & AC) and 20 of this 29 refer to the secure attachment (F with B). This means that only 9 "non-secure" AAI are linked to each other.

Considering this, obviously, no significant association between the M&G and the DMM systems emerged in adult attachment classifications using four-way analyses. For example, 6 out of 11 AAIs (54.5%) classified as unresolved (U/d) in the M&G system resulted Balanced (B) or in course of reorganization to B (R>B) using the DMM, and 21 out of 57 classified as Free in the M&G system resulted non-normative (A+, C+, A/C & AC) in the DMM.

9.1. Association between M&G F and DMM Normative

The M&G model seems to attribute more frequently a secure pattern. Using M&G criteria, almost 63% of the AAIs showed a Free (F) classification, while only 32% result B using the DMM criteria. Considering the DMM normative subjects as a group (B, A1-2, C1-2), the distribution results more like the M&G model (63.3% for M&G vs 55.5% for DMM).

Regarding a possible association, a moderate statistical significance emerges considering only AAI who displayed organized, adaptive to the context, and non-competitive attachment classifications in both models ($\chi^2 = 19.31$, $p = .001$).

Even in this case, 11 out of 14 (78.6%) AAI coding as low-index Dismissing (A1-2) fall into Free/Autonomous (F) using M&G criteria; 2 of 14 (14.3%) are U, and only one out of 14 (7.1%) link with M&G Dismissing (Ds) pattern (Table 9.1.). More in general, there seems to be a problem with Dismissing pattern, because the M&G model seems to detect Dismissing (Ds) patterns less frequently than the DMM model (almost 13% vs 39%), suggesting important differences in their theoretical assumptions.

Table 9.1. Association between DMM A1-2 (14 AAI) pattern and M&G

A2(3)	F2/F1		Ul(v) A1(4)	Ds1
A1(4)	F5/F1a		Utr(n, ds) A1(3)	F3/F4
A1	F5/F1a		Ul(ds,dp) A1(3)	F2
A1	F2/F1b/F4		A1-2(4)	F2
A1-2	F2/F1b		A1	U/Ds3
A2	F3		A2	F4b
A2(4)	U/F4		A1-2	F2/F3a

Note: green boxes=match; orange box: partial match

red boxes=no match

Regarding DMM Preoccupied (C) pattern, the two models seem more similar in their theoretical conceptualization, despite only 3 out of 7 (42.9) AAI link to Entangled/Preoccupied pattern in M&G coding system, but 3 out of 7 (42.8) fall into Free/Autonomous (F) using DMM criteria.

Table 9.2. Association between DMM C1-2 (7 AAI) pattern and M&G

C1	E1		R > C1	U/E3/E1
C2	E2/F5		C1-2	F3a
C1-2	E1/E2		C1-2	F1b
C1-2	F5			

Note: green boxes=match; orange box: partial match

red boxes=no match

A possible explanation of this is that M&G and DMM differ in their viewing of the process of becoming securely attached. Both models conceptualize Types F (Free) or B (Balanced) attachment as the most balanced, and the least associated with psychopathology. Main maintains that secure infant attachment emerges in the context of maternal contingency and sensitive responsiveness to the infant's signals, which are manifested by the infant's organized ability to seek proximity to the mother when distressed, and engage in exploration of the environment when not distressed (Main,

2000; Main, Kaplan, & Cassidy, 1985). Crittenden (2015a, 2015b) conceptualizes instead that infants develop organized strategies through a process of integration of both cognitive and affective information, involving a relative reliance on two types of information (affect or cognition) and a degree of integration of the information and corresponding representations. In this regard, in the DMM, the distinction between security and insecurity is not sharply dichotomized but, rather, varies along a dimensional *continuum* where security is considered as a balanced information process (Shah & Strathearn, 2014).

9.2. Association between M&G U/d and DMM high-risk configurations

No significant association between the M&G and the DMM systems emerged in adult attachment classifications considering high risk classifications (Unresolved/disorganized, U/d and Cannot Classify, CC, for M&G coding system and Compulsive A+, Obsessive C+ and mixed pattern A/C and AC). As shown in the results (cfr. Table 8.4. 8.5. and 8.6.), 23 out of 40 (57.5%) DMM high risk pattern are classified into M&G Free/Autonomous (F) pattern and only 8 out of 40 (20%) matched with M&G coding system.

Both models underline the role of fear in shaping attachment strategies, but in the M&G model fear acts as an affect that fosters a "disorganizing" strategy, while in the DMM it is a guide to the organization of the behavior. For example, in the M&G, significant trauma and loss are considered to potentially foster dysregulated feelings that may prevent the infant from formulating a coherent mental state with respect to attachment, and in this case a disorganized pattern emerges (Main & Hesse, 1990). Conversely, in the DMM, fear fosters an organizing strategy for self-protection, and the infant's behavioral strategy varies on the bases of the caregiver's behavior and the specific memory system activated most strongly in the context (Crittenden, 2015a, 2015b).

9.3. Association between M&G U/d and DMM unresolved L & Tr

In the same way, no association emerged regarding the presence of unresolved loss or trauma in DMM and the U pattern in M&G model. In addition, 6 out of 11 AAIs (54.5%) classified as unresolved (U/d) in the M&G system resulted Balanced (B) or in

course of reorganization to B (R>B) using the DMM (Table 8.2.). The failure of this hypothesis is emblematic of the difference between the two models: we expected that the conceptualization of Unresolved Loss or Trauma would have been similar for both, because recognizing losses or traumas into an AAI should be objective. Clearly it is not so, possibly because the meaning of irresolution varies between the two models.

9.4. Possible explanations

One possible explanation of these data is that M&G and DMM systems present deep differences in their theoretical assumptions. The M&G model refers more to discourse patterns to identify *mental representations of attachment*, whereas the DMM model is more focused on the *function of the attachment strategy and on the different use of cognitive and affective information*. The DMM model describes attachment patterns that progress, from infancy to adulthood, along a *continuum* from the use of cognitive information to the use of affective information (passing from A1-8 to B1-4 to C1-8), with the mixed classification AC or A/C used to describe respectively patterns of attachment that are "unintegrated" or where different strategies are employed in different contexts (Crittenden, 2000; Crittenden & Landini, 2011).

So, we spotted a series of differences in the conceptualization of the processes of attachment, of the role of fear in disorganizing or organizing attachment strategies, of the function of behavior and of the attachment strategy categorization; these differences can profoundly affect the way the data of AAI are interpreted, leading to very different attachment encodings. In fact, in our study, we were able to find a significant association between the two coding models only when we excluded from the analysis all the interviews displaying attachment disorganization and conflicting internal working models at the M&G and non-normative and high-index mixed strategies at the DMM. This result could suggest that the two coding models can converge at some degree when individuals display normative and organized patterns of attachment, but they may also diverge extremely when non-normative or disorganized/competitive attachment patterns are present, as often happens with people suffering from clinical disorders. Moreover, the tendency of the DMM to identify more A or C attachment strategies than the M&G should be dealt with extreme caution, also comparing the two coding system classifications in normal samples.

9.4. Clinical implications

Our research highlights an important difference between the two models, which concerns not only the different encoding systems of the AAI, but also the clinical implications for the treatment of psychopathological disorders.

Other research highlighted the lack of convergence between the data collected by the AAI and with other tools for the assessment of attachment, especially the self-report questionnaires (Fraley & Waller, 1998; Shaver, Belsky, & Brennan, 2000; Roisman, Fraley, & Belsky, 2007). The majority of these studies evidenced that self-reports of attachment anxiety and avoidance are unrelated with AAI assessment (Mikulincer & Shaver, 2016), and a meta-analytic review (Roisman, Holland, et al., 2007) concluded that the associations between the two types of instruments were basically insignificant (mean r = .09). As a consequence, the term "attachment styles" may be more appropriate for data collected through questionnaires or other interviews that are based on simple prototypical descriptions and on conscious information reported by the subject in low-stress conditions (Fraley & Spieker, 2003; Mikulincer & Shaver, 2016).

The results of our study raise the following question: does the concept of attachment carry the same meaning when different approaches to its assessment are used?

The construct of attachment (and pattern, strategies or styles) that emerges from different conceptualizations of its assessment is not the same, thus the information that may result from different methods of assessment is not the same. This notion may be particularly important, especially when attachment research is used to develop preventive action and clinical intervention. In this respect, it may be fundamental to acknowledge that the diverse models of attachment take into consideration crucial concepts such as safety or insecurity in different ways. In conclusion, researchers and clinicians who, in the research phase and as a guide for diagnosis treatment, assess attachment through a complex instrument like the AAI or, more simply, through a self-report questionnaire, should be aware of and clearly declare the model that they use, and should always consider its benefits and limitations in relation to the specific research or clinical purpose. Unfortunately, this recommendation is currently almost always disregarded.

9. 5. Limitations of the research

This study presents some limitations. The sample was not overly large and the participants were from North and Central Italy only. In addition, the sample consisted of couples of parents assessed at six months after the birth of the newborn, thus our findings concerning the observed differences in M&G and DMM classifications of AAI cannot be immediately extended to other samples. Moreover, the reduced sample size prevented us to perform more sophisticated statistical analysis, and to compare the single sub-categories of attachment classification. In fact, research on wider populations, on clinical samples and in different cultural contexts is greatly needed in order to replicate and extend our findings.

10. CONCLUSIONS

Considering the content of this thesis and research results, it can be argued that attachment theory should no longer be considered as a unique theory, but as a meta-paradigm containing various currents which are different both in their basic assumptions and in their clinical conclusions. Considering this research, saying that a person is "Dismissing" or "Preoccupied" completely loses its meaning if a theoretical model is not indicated as well.

It is impossible to state which one of the two theoretical models is the best, both because it is not this thesis' purpose, and because these models are larger than the AAI coding system: they originated from the latter, but they later developed and created their own theoretical conceptualizations and diagnostic tools. As a matter of fact, the AAI represents just one of the tools included in a wider theoretical model (Crittenden, 2008a; Main, Hesse & Hesse 2011).

Nevertheless, I would like to point out some important differences in the clinical practice of AAI's codification that the two models have shown in my research.

As we have seen, the M&G coding system was created for research purposes (Main & Goldwyn, 1984-1998): the study of the Bay Area on intergenerational transmission of attachment has essentially created the current coding model, and, despite many changes over time (Hesse, 2008), the model has always remained near to the principles of research. If we analyze the coding of the AAI using this model, we notice very dry categories, which seem to be made to be enclosed in statistical analysis (Main, Goldwyn & Hesse, 1982-2008). It is not a coincidence that in the last twenty years, more than 10,000 AAI for research purposes were coded in accord with this model (Bakermans-Kranenburg & van IJzendoorn 2009), and this number is still growing. Thanks to the M&G model, the AAI remains a competitor in research's field despite the development of self-report questionnaires, which are cheaper, both in terms of coding and administration (Roisman, Fraley & Belsky, 2007; Roisman et al., 2007). As highlighted in Chapter 3, although the data emerging from AAI are categorical, the high level of reliability and validity makes AAI the gold standard in the assessment of attachment (Hesse, 2008); researches which assess attachment using AAI have a greater value if compared to studies that rely on self-report tools (Barone & Del Corno, 2007). However,

the M&G coding system loses much of its effectiveness in clinical settings and in contexts where the single-case is more relevant. Ds, F and E patterns are almost adaptive, organized and contain sub-patterns (i.e., Ds1, Ds2, Ds3...) which are just dimensional aspects of the main pattern and differ little from the main configuration, but when the Internal Working Models become less adaptive - and the subject seems to be less organized - the M&G model does not appear structured enough to discriminate complex configurations (Shah & Strathearn, 2014). In a clinical context, this model of attachment assessment is not so useful, because it just ascribes the person to a category and hardly explains the complex, individual personality; however, this is the price to pay to have a model available worldwide in research (Spieker & Crittenden, 2009).

The DMM-AAI coding system was born within the clinical context, where the AAI was administered and codified in families characterized by maltreatments or abuses to determine the capability of parents to be good caregivers and consider the possibility to entrust the child to social services (Crittenden, 1994). Later, the DMM-AAI took place in legal field as a forensic assessment tool for the assessment of single cases. Adapting the DMM coding model for the AAI to a research protocol is very complex in relation to the characteristics of the model: in fact, it is not suitable for division into macro-categories. According to the theoretical model it is clear that the division A, B, C, A/C & AC doesn't make sense (Crittenden, 1999, 2004, 2008a), but also the division used for this thesis, A1-2, A+, B, C1-2, C+, A/C & AC, is not appropriate, because the patterns of the model are not considered dimensionally, but categorically. Following the direction of the theoretical model described in Chapter 4, only B pattern (Balanced) presents five dimensional sub-patterns which can be considered as a unique category, while A, C, A/C & AC patterns present independent and different sub-patterns; for example, the high-index A3 sub-pattern of mental functioning is completely different from A5; the C4 sub-pattern hasn't much in common with the C7 and the mixed patterns A/C and AC are very different (Crittenden, 1999, 2004, 2008a). For research purposes, it is inevitable to include these sub-patterns in unique categories, but it is conceptually wrong; probably, Low-Risk vs High-Risk is the only division that makes sense, and it is not a coincidence if it is the only one that presents significant associations with the M&G model. If people observe the complexity of each encoding (Attachment 2), it is clear that AAI coding is unique and suitable to every individual. This is the reason why the model appears ideal to capture the complexity of single-case: it draws up a brief-precise profile of Internal Working Models

("Representational Dispositions" as called by Patricia Crittenden – Crittenden & Landini, 2011), but it makes it difficult to generalize data for research purposes.

Over the last years, the AAI has been used in many clinical and research contexts, but there are some aspects which still limit its diffusion, independently from the model we consider.

First of all, technology does not develop step by step with theory, so AAI presents structural limitations due to the administration-transcription-encoding protocol: according to its protocol, AAI pays great attention to verbal and para-verbal aspects, but does not consider non-verbal aspects; in fact, AAI is audio-recorded and transcribed, but in this way a large amount of information gets lost. This method was probably the best possible in 1984, when the AAI was developed, but after 30 years it does not appear competitive anymore. In 1984, dealing with 60-90 minutes videos was complicated and expensive; now this aspect does not represent a problem, but technological upgrading is not considered by those who theorize the model. Regardless of the model, the administration-transcription-encoding process of AAI requires 20-25 hours, of which 1-2 hours dedicated to transcription, 2-5 hours to coding and 15-20 hours to verbatim transcription. This last aspect is what really limits the spread of the AAI, and where technology could act in a positive way: video-recording the administration of AAI, in addition to get non-verbal aspects that currently are lost in audio-recording, would allow to treat the video through specific software with automatic and direct encoding transcription, without going through the expensive - both in terms of time and financially - transcription. In this way, each AAI would be administered and coded in between 3 and 5 hours, still much longer than a self-report questionnaire's administration and decoding would take, but it would make the tool competitive, thanks to its criteria of validity higher than self-report tools (Manassis, Owens, Adam, West & Sheldon-Kellor, 1999). Even though these upgrading could be implemented with relative little effort, researchers show many resistances about the diffusion of new technologies.

Another problem related to the diffusion of AAI is the partial difficulty of finding material: the most of it can't be obtained and shared freely because it is contained in unpublished manuscripts which are kept private and allowed to be consulted only by attending specialized and expensive courses. Surely this is a good way to earn through knowledge - not a bad idea in contemporary society – but, obviously, the lack of specific publications make the spread of the model slower than it could be.

I would like to conclude this work by wishing this paper could open up the door to new, constructive discussions between different models referred to the attachment theory: they have been refusing to dialogue for a long time, and strongly defended their positions because of motivations which barely had to do with theoretical aspects. Each model possesses strong points and benefits which are not necessarily in contrast: "integrating aspects" does not mean the model's peculiarity will go lost, and renovation does not necessary lead to the denial of one's origins.

In the future, new researches could be useful in clinical environment, in order to compare the main theoretical models used to assess attachment – AAI in particular – so as to highlight points of contacts and differences within a clinical sample and to consider positive and negative aspects of new encoding procedures.

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Attachment

ATTACHMENT 1

The AAI original protocol

(George, Kaplan & Main, 1985)

ADULT ATTACHMENT INTERVIEW PROTOCOL

George, C., Kaplan, N., & Main, M. (1985). *The Adult Attachment Interview.*

Unpublished manuscript, University of California at Berkeley.

(Note: This document is for illustration only. Contact the authors for information about training and the most current version of the interview protocol.)

Introduction: *I'm going to be interviewing you about your childhood experiences, and how those experiences may have affected your adult personality. So, I'd like to ask you about your early relationship with your family, and what you think about the way it might have affected you. We'll focus mainly on your childhood, but later we'll get on to your adolescence and then to what's going on right now. This interview often takes about an hour, but it could be anywhere between 45 minutes and an hour and a half.*

1. ***Could you start by helping me get oriented to your early family situation, and where you lived and so on? If you could tell me where you were born, whether you moved around much, what your family did at various times for a living?***

This question is used for orientation to the family constellation, and for warm-up purposes. The research participant must not be allowed to begin discussing the quality of relationships here, so the "atmosphere" set by the interviewer is that a brief list of "who, when" is being sought, and *no more than two or three minutes* at most should be used for this question. The atmosphere is one of briefly collecting demographics.

In the case of participants raised by several persons, and not necessarily raised by the biological or adoptive parents (frequent in high-risk samples), the opening question above may be *"Who would you say raised you?':* The interviewer will use this to help determine who should be considered the primary attachment figure(s) on whom the interview will focus.

Did you see much of your grandparents when you were little? If participant indicates that grandparents died during his or her own lifetime, ask the participant's age at the time of each loss. If there were grandparents whom she or he never met, ask *whether this (these) grandparents) had died before she was born.* If yes, *continue as* follows: *Your mother's father died before you were born? How old was she at the time, do you know?* In a casual and *spontaneous way,* inviting only a very brief reply, the interviewer then asks, *Did she tell you much about this grandfather?*

Did you have brothers and sisters living in the house, or anybody besides your

parents? Are they living nearby now or do they live elsewhere?

2. **I'd like you to try to describe your relationship with your parents as a young child if you could start from as far back as you can remember?**

Encourage participants to try to begin by remembering very early. Many say they cannot remember early child- hood, but you should shape the questions such that they focus at first around age five or earlier, and gently remind the research participant from time to time that if possible, you would like her to think back to this age period.

Admittedly, this is leaping right into it, and the participant may stumble. If necessary, indicate in some way that experiencing some difficulty in initially attempting to respond to this question is natural, but indicate by some silence that you would nonetheless like the participant to attempt a general description.

3. **Now I'd like to ask you to choose five adjectives or words that reflect your relationship with your mother starting from as far back as you can remember in early childhood--as early as you can go, but say, age 5 to 12 is fine. I know this may take a bit of time, so go ahead and think for a minute... then I'd like to ask you why you chose them. I'll write each one down as you give them to me.**

Not all participants will be able to think of five adjectives right away. Be sure to make the word *relationship* clear enough to be heard in this sentence. Some participants do use "relationship" adjectives to describe the parent, but some just describe the parent herself --e.g., "pretty"... "efficient manager"--as though they had only been asked to "pick adjectives to describe your mother". These individual differences are of interest only if the participant has heard the phrase, "that reflect your childhood *relationship"* with your mother. The word should be spoken clearly, but with only slight stress or emphasis.

Some participants will not know what you mean by the term *adjectives,* which is why we phrase the question as "adjectives or words". If the participant has further questions, you can explain, "just words or phrases that would describe or tell me about your relationship with your (mother) during childhood".

The probes provided below are intended to follow the entire set of adjectives, and *the interviewer must not begin to probe until the full set of adjectives has been given.* Be patient in waiting for the participant to arrive at five adjectives, and be encouraging. This task has proven very helpful both in starting an interview, and in later interview analysis. It helps some participants to continue to focus upon the relationship when otherwise they would not be able to come up with spontaneous comments.

If for some reason a subject does not understand what a memory is, you might suggest they think of it like an image they have in their mind similar to a videotape of something which happened when they were young. Make certain that the subject really does not understand the question first, however. The great majority who may seem not to understand it are simply

unable to provide a memory or incident.

The participant's ability (or inability) to provide both an overview of the relationship and specific memories supporting that overview forms one of the most critical bases of interview analysis. For this reason it is important for the interviewer to press enough in the effort to obtain the five "overview" adjectives that if a full set is not provided, she or he is reasonably certain that they truly cannot be given.

The interviewer's manner should indicate that waiting as long as a minute is not unusual, and that trying to come up with these words can be difficult. Often, participants indicate by their non-verbal behavior that they are actively thinking through or refining their choices. In this case an interested silence is warranted. Don't, however, repeatedly leave the participant in embarrassing silences for very long periods. Some research participants may tell you that this is a hard job, and you can readily acknowledge this. If the participant has extreme difficulty coming up with more than one or two words or adjectives, after a period of two to three minutes of supported tempts ("Mm... I know it can be hard ...this is a pretty tough question... Just take a little time"), then say something like "Well, that's fine. Thank you, we'll just go with he ones you've already given me." The interviewer's tone here should make it clear that the participant's response is perfectly acceptable and not un- common.

> *Okay, now let me go through some more questions about your description of your childhood relation- ship with your mother. You say your relationships with her was (you used the phrase) Are there any memories or incidents that come to mind with respect to (word).*

The same questions will be asked *separately* for *each* adjective in series. Having gone through the probes which follow upon this question (below), the interviewer moves on to seek illustration for each of the succeeding adjectives in turn:

> *You described your childhood relationship with your mother as (or, `your second adjective was", or "the second word you used was"). Can you think of a memory or an incident that would illustrate why you chose to describe the relationship?*

The interviewer continues, as naturally as possible, through each phrase or adjective chosen by the participant, until all five adjectives or phrases are covered. A specific supportive memory or expansion and illustration is requested for each of the adjectives, separately. In terms of time to answer, this is usually the longest question. Obviously, some adjectives chosen may be almost identical, e.g., "loving ... caring". Nonetheless, if they have been given to you as separate descriptors, you must treat each separately, and ask for memories for each.

While participants sometimes readily provide a well-elaborated incident for a particular word they have chosen, at other times they may fall silent; or "illustrate" one adjective with another ("loving ...um, because she was generous"); or describe what usually happened--i.e., offer a "scripted" memory--rather than describing specific incidents. There are a set series of responses available for these contingencies, and it is vital to memorize them.

If the participant is silent, the interviewer waits an appropriate length of time. If the participant indicates non- verbally that she or he is actively thinking, remembering or simply attempting to come up with a particularly telling illustration, the interviewer maintains an interested silence. If the silence continues and seems to indicate that the participant is feeling stumped, the interviewer says something like, "well, just take another minute and see if anything comes to mind". If following another waiting period the participant still cannot respond to the question, treat this in a casual, matter of fact manner and say "well, that's fine, let's take the next one, then". Most participants do come up with a response eventually, however, and the nature of the response then deter- mines which of the follow-up probes are utilize

If the participant re-defines an affective with a second adjective as, "Loving ---she was generous", the inter- viewer probes by repeating the original adjective (loving) rather than permitting the participant to lead them to use the second one (generous). In other words, the interviewer in this case will say, "Well, can you think of a specific memory that would illustrate how your relationship was loving?" The interviewer should be careful, however, not to be too explicit in their intention to lead the participant back to their original word usage. If the speaker continues to discuss "generous" after having been probed about loving once more, this violation of the discourse task is meaningful and must be allowed. As above, the nature of the participant's response determines which follow-up probes are utilized.

If a specific and well-elaborated incident is given, the participant has responded satisfactorily to the task, and the interviewer should indicate that she or he understands that. However, the interviewer should briefly show continuing interest by asking whether the participant can think of a second incident.

- If one specific but poorly elaborated incident is given, the interviewer probes for a second. Again, the interviewer does this in a manner emphasizing his or her own interest.
- If as a first response the participant gives a "scripted" or "general" memory, as "Loving. She always took us to the park and on picnics. She was really good on holidays" or "Loving. He taught me to ride a bike"--the interviewer says, "Well, that's a good general description, but I'm wondering if there was a particular time that happened, that made you think about it as loving?"
- If the participant does now offer a specific memory, briefly seek a second memory, as above. If another scripted memory is offered instead, or if the participant responds "I just think that was a loving thing to do", the interviewer should be accepting, and go on to the next adjective. Here as elsewhere the interviewer's behavior indicates that the participant's response is satisfactory.

4. *Now I'd like to ask you to choose five adjectives or words that reflect your childhood relationship with your father, again starting from as far back as you can remember in early childhood--as early as you can go, but again say, age 5 to 12 is fine. I know this may take a bit of time, so go ahead and think again for a minute...then I'd like to ask you why you chose them. I'll write each one down as you give them to me. (Interviewer repeats with probes as above).*

5. *Now I wonder if you could tell me, to which parent did you feel the closest, and why? Why isn't there this feeling with the other parent?*

By the time you are through with the above set of questions, the answer to this one may be obvious, and you may want to remark on that *("You've already discussed this* a bit, but I'd like to ask about it briefly any- way..."). Furthermore, while the answer to this question may indeed be obvious for many participants, some--particularly those who describe both parents as loving--may be able to use it to reflect further on the difference in these two relationships.

6. When you were upset as a child, what would you do?

This is a critical question in the interview, and variations in the interpretation of this question are important. Consequently, the participant is first encouraged to think up her own interpretations of "upset", with the interviewer pausing quietly to indicate that the question is completed, and that an answer is requested.

Once the participant has completed her own interpretation of the question, giving a first answer, begin on the following probes. Be sure to get expansions of every answer. If the participant states, for example, "I withdrew", probe to understand what this research participant means by "withdrew". For example, you might say, "And what would you do when you withdrew?"

The interviewer now goes on to ask the specific follow-up questions below. These questions may appear similar, but they vary in critical ways, so the interviewer must make sure that the participant thinks through each question separately. This is done by placing vocal stress on the changing contexts (as we have indicated by underlining).

> *-----When you were Upset emotionally when you were little, what would you do?* (Wait for participant's reply). *Can you think of a specific time that happened?*

> *-----Can you remember what would happen when you were hurt. physically?* (Wait for participant's reply). *Again, do any specific incidents (or, do any other incidents) come to mind?*

> *-----Were you ever M when you were little?* (Wait for participant's reply). Do *you remember what would happen?*

When the participant describes going to a parent, see first what details they can give you spontaneously. Try to get a sense of how the parent or parents responded, and then when and if it seems appropriate you can briefly ask one or two clarifying questions.

Be sure to get expansions of every answer. Again, if the participant says "I withdrew", for example, probe to see what the participant means by this, i.e., what exactly she or he did, or how exactly they felt, and if they can elaborate on the topic.

If the participant has not spontaneously mentioned being held by the parent in response to any

of the above questions, the interviewer can ask casually at the conclusion to the series, ***"I was just wondering, do you remember being held by either of your parents at any of these times-- I mean, when you were upset, or hurt, or ill?"***

In earlier editions of these guidelines, we suggested that if the participant answers primarily in terms of responses by one of the parents, the interviewer should go through the above queries again with respect to the remaining parent. This can take a long time and distract from the recommended pacing of the interview. Consequently, it is no longer required.

> ***What is the first time you remember being separated from your parents?***

> ***- - -How did you respond? Do you remember how your parents responded?***

> ***- - -Are there any other separations that stand out in your mind?***

Here research participants often describe first going off to nursery school, or to primary school, or going camping.

In this context, participants sometimes spontaneously compare their own responses to those of other children. This provides important information regarding the participant's own overall attitude towards attachment, so be careful not to cut any such descriptions or comparisons short.

8. ***Did you ever feel rejected as a young child? Of course, looking back on it now, you may realize it wasn't really rejection, but what I'm trying to ask about here is whether you remember ever having rejected in childhood***

> *-----How old were you when you first felt this way, and what did you do?*

> *----Why do you think your parent did those things--do you think he/she realized he/she was rejecting you?*

> Interviewer may want to add a probe by refraining the question here, especially if no examples are forthcoming. The probe we suggest here is, *Did you ever feel pushed away or ignored?"* Many participants tend to avoid this in terms of a positive answer.

> *So, were you ever frightened or worried as a child?*

Let the research participant respond "freely" to this question, defining the meaning for themselves. They may ask you what the question means, and if so, simply respond by saying "It's just a more general question". Do not probe heavily here. If the research participant has had traumatic experiences which they elect not to describe, or which they have difficulty remembering or thinking about, you should not insist upon hearing about them. They will have a second, brief opportunity to discuss such topics later.

9. ***Were your parents ever threatening with you in any way - maybe for discipline, or***

even jokingly?

-----*Some people have told us for example that their parents would threaten to leave them or send them away from home.*

-----(Note to researchers). In particular communities, some specific kind of punishment not generally considered fully abusive is common, such as "the silent treatment", or "shaming", etc. One question regarding this one selected specific form of punishment can be inserted here, as for example, *'Some people have told us that their parents would use the silent treatment---did this ever happen with your parents?':* The question should then be treated exactly as threatening to send away from home, i.e., the participant is free to answer and expand on the topic if she or he wishes, but there are no specific probes. The researcher should not ask about more than one such specific (community) form of punishment, since queries regarding more than one common type will lead the topic away from its more general intent (below).

Some people have memories of *threats or* of *some kind* of *behavior that was abusive.*

-----*Did anything like this ever happen to you, or in your family?*

      -----*How old were you at the time? Did it happen frequently?*

      -----*Do you feel this experience affects you now as an adult?*

      -----*Does it influence your approach to your own child?*

-----*Did you have any such experiences involving people outside your family?*

If the participant indicates that something like this did happen outside the family, take the participant through the same probes *(age? frequency? affects you now as an adult? Influences your approach to your own child?).* Be careful with this question, however, as it is clinically sensitive, and by now you may have been asking the participant difficult questions for an extended period of time.

Many participants simply answer "no" to these questions. Some, however, describe abuse and may some suffer distress in the memory. When the participant is willing to discuss experiences of this kind, the interviewer must be ready to maintain a respectful silence, or to offer active sympathy, or to do whatever may be required to recognize and insofar as possible to help alleviate the distress arising with such memories.

If the interviewer suspects that abuse or other traumatic experiences occurred, it is important to attempt to ascertain the specific details of these events insofar as possible. In the coding and classification system which accompanies this interview, *distressing experiences cannot be scored for Unresolved/disorganized responses unless the researcher is able to establish that abuse (as opposed to just heavy spanking, or light hitting with a spoon that was not frightening) occurred.*

Where the nature of a potentially physically abusive (belting, whipping, or hitting) experience

is ambiguous, then, the interviewer should try to establish the nature of the experience in a light, matter-of-fact manner, with- out excessive prodding. If, for example, the participant says "I got the belt" and stops, the interviewer asks, "And what did getting the belt mean?". After encouraging as much spontaneous expansion as possible, the interviewer may still need to ask, again in a matter-of-fact tone, how the participant responded or felt at the time. "Getting the belt" *in itself will* not qualify as abuse within the adult attachment scoring and classification systems, since in some households and communities this is a common, systematically but not harshly imposed experience. Being belted heavily enough to overwhelmingly frighten the child for her physical welfare at the time, being belted heavily enough to cause lingering pain, and/or being belted heavily enough to leave welts or bruises will qualify.

In the case of sexual abuse as opposed to battering, the interviewer will seldom need to press for details, and should be very careful to follow the participant's lead. Whereas on most occasions in which a participant de- scribes themselves as sexually abused the interviewer and transcript judge will have little need to probe further, occasionally a remark is ambiguous enough to require at least mild elaboration. If, for example, the participant states `and I just thought he could be pretty sexually abusive', the interviewer will ideally follow-up with a query such as, ` well, could you tell me a little about what was happening to make you see him as sexually abusive?'. Should the participant reply that the parent repeatedly told off-color jokes in her company, or made un- toward remarks about her attractiveness, the parent's behavior, though insensitive, will not qualify as sexually abusive within the accompanying coding system. Before seeking elaboration of any kind, however, the inter- viewer should endeavor to determine whether the participant seems comfortable in discussing the incident or incidents.

All querying regarding abuse incidents must be conducted in a matter-of-fact, professional manner. The interviewer must use good judgment in deciding whether to bring querying to a close if the participant is becoming uncomfortable. At the same time, the interviewer *must not avoid the topic or give the participant the impression that discussion of such experiences is unusual.* Interviewers sometimes involuntarily close the topic of abuse experiences and their effects, in part as a well-intentioned and protective response towards participants who in point of fact would have found the discussion welcome.

Participants who seem to be either thinking about or revealing abuse experiences for the first time-- "No, nothing ....no... well, 1, I haven't thought, remembered this for, oh, years, but ...maybe they used to... tie me.... "-- must be handled with special care, and should *not* be probed unless they clearly and actively seem to want to discuss the topic. If you sense that the participant has told you things they have not previously discussed or remembered, special care must be taken at the end of the interview to ensure that the participant does not still suffer distress, and feels able to contact the interviewer or project director should feelings of distress arise in the future.

In such cases the participant's welfare must be placed above that of the researcher. While matter-of-fact, professional and tactful handling of abuse-related questions usually makes it possible to obtain sufficient information for scoring, the interviewer must be alert to indications of marked distress, and ready to tactfully abandon this line of questioning where necessary.

Where the complete sequence of probes must be abandoned, the inter- viewer should move gracefully and smoothly to the next question, as though the participant had in fact answered fully.

10. *In general, how do you think your overall experiences with your parents have affected your adult personality?*

The interviewer should pause to indicate she or he expects the participant to be thoughtful regarding this question, and is aware that answering may require some time.

Are there any aspects to your early experiences that you feel were a set-back in your development?

In some cases, the participant will already have discussed this question. Indicate, as usual, that you would just like some verbal response again anyway, "for the record".

It is quite important to know whether or not a participant sees their experiences as having had a negative effect on them, so the interviewer will follow-up with one of the two probes provided directly below. The interviewer must stay alert to the participant's exact response to the question, since the phrasing of the probe differs according to the participant's original response.

If the participant has named one or two setbacks, the follow-up probe used is:

---Are there any other aspects of your early experiences, that you think might have held your development back, or had a negative effect on the way you turned out?

If the participant has understood the question, but has not considered anything about early experiences a setback, the follow-up probe used is:

---Is there any thin about your early experiences that you think might have held your development back, or had a negative effect on the way you turned out?

Although the word ***anything*** receives some vocal stress, the interviewer must be careful not to seem to be ex- pressing impatience with the participant's previous answer. The stress simply implies that the participant is be- ing given another chance to think of something else she or he might have forgotten a moment ago.

RE: PARTICIPANTS WHO DON'T SEEM TO UNDERSTAND THE TERM, SETBACK. A few participants aren't familiar with the term, ***set-back.*** If after a considerable wait for the participant to reflect, the participant seems simply puzzled by the question, the interviewer says,

*"Well, not everybody uses terms like **set-back** for what I mean here. I mean, was there anything about your early experiences, or any parts of your early experiences, that you think might have held your development back, or had a negative effect on the way you turned out?"*

In this case, this becomes the main question, and the probe becomes

-Is there anything else about your early experiences that you think might have held your development back, or had a negative effect on the way you turned out?

11.   Why do you think your parents behaved as they did during your childhood?

This question is relevant even if the participant feels childhood experiences were entirely positive. For participants reporting negative experiences, this question is particularly important.

12.   Were there any other adults with whom you were close, like parents, as a child?

--- Or any other adults who were especially important to you, even though not parental?

Give the participant time to reflect on this question. This is the point at which some participants will mention housekeepers, au pairs, or nannies, and some will mention other family members, teachers, or neighbors.

Be sure to find out ages at which these persons were close with the participant, whether they had lived with the family, and whether they had had any caregiving responsibilities. In general, attempt to determine the significance and nature of the relationship.

13.   Did you experience the loss of a parent or other close loved one while you were a young child--for ex- ample, a sibling, or a close family member?

(A few participants understand the term "loss" to cover brief or long-term separations from living persons, as, "I lost my mom when she moved South to stay with her mother". If necessary, clarify that you are referring to death only, i.e. specifically to loved ones who had died).

-----Could you tell me about the circumstances, and how old you were at the time?

-----How did you respond at the time?

-----Was this death sudden or was it expected?

-----Can you recall your feelings at that time?

-----Have your feelings regarding this death changed much over time?

If not volunteered earlier. *Did you attend the funeral, and what was this like for you?*

If loss of a parent or *sibling. What would you say was the effect on your (other parent) and on your household, and how did this change over the years?*

-----Would you say this loss has had an effect on your adult personality?

128

-----Were relevant *How does it affect your approach to your own child?*

13a.   Did you lose any other important persons during your childhood?

13b.   Have you lost other close persons, in adult years? (Same queries).

Be sure that the response to these questions covers loss of any siblings, whether older or younger, loss of grandparents, and loss of any person who seemed a "substitute parent" or who lived with the family for a time. Some individuals will have been deeply affected by.

Probe any loss which seems important to the participant, including loss of friends, distant relatives, and neighbors or neighbor's children. Rarely, the research participant will seem distressed by the death of someone who they did not personally know (often, a person in the family, but sometimes someone as removed as the friend of a friend).

If a participant brings up the suicide of a friend of a friend and seems distressed by it, the loss *should be fully* probed. The interviewer should be aware, then, that speakers may be assigned to the unresolved/disorganized adult attachment classification as readily for lapses in monitoring occurring during the discussion of the death of a neighbor's child *experienced during the adult* years as for loss of a parent in childhood.

Interviewing research participants regarding loss obviously requires good clinical judgment. At maximum, only four to five losses are usually fully probed. In the case of older research participants or those with trau- matic histories, there may be many losses, and the interviewer will have to decide on the spot which losses to probe. No hard and fast rules can be laid out for determining which losses to skip, and the interviewer must to the best of his or her ability determine which losses--if there are many--are in fact of personal significance to the participant. Roughly, in the case of a participant who has lost both parents, spouse, and many other friends and relatives by the time of the interview, the interviewer might elect to probe the loss of the parents, the spouse, and "any other loss which you feel may have been especially important to you". If, however, these queries seem to be becoming wearying or distressing for the participant, the interviewer should acknowledge the excessive length of the querying, and offer to cut it short.

14.   Other than any difficult experiences you've already described, have you had any other experiences which you should regard as potentially traumatic?

Let the participant free-associate to this question, then clarify if necessary with a phrase such as, *I mean, any experience which was overwhelmingly and immediately terrifying.*

This question is a recent addition to the interview. It permits participants to bring up experiences which may otherwise be missed, such as scenes of violence which they have observed, war experiences, violent separation, or rape.

Some researchers may elect not to use this question, since it is new to the 1996 protocol. If you

do elect to use it, it must of course be used with all subjects in a given study.

The advantage of adding this question is that it may reveal lapses in reasoning or discourse specific to traumatic experiences other than loss or abuse.

(Same queries--again, this refers to people who have died rather than separation experiences).

Be very careful, however, not to permit this question to open up the interview to all stressful, sad, lonely or upsetting experiences which may have occurred in the subject's lifetime, or the purpose of the interview and of the question may be diverted. It will help if your tone indicates that these are rare experiences.

Follow up on such experiences with probes only where the participant seems at relative ease in discussing the event, and/or seems clearly to have discussed and thought about it before.

Answers to this question will be varied. Consequently, exact follow-up probes cannot be given in advance, although the probes succeeding the abuse and loss questions may serve as a partial guide. In general, the same cautions should be taken with respect to this question as with respect to queries regarding frightening or worrisome incidents in childhood, and experiences of physical or sexual abuse. Many researchers may elect to treat this question lightly, since the interview is coming to a close and it is not desirable to leave the participant reviewing too many difficult experiences just prior to leave taking.

15. *Now 1'd like to ask you a few more questions about your relationship with your pants. Were there many changes in your relationship with your parents (or remaining parent) after childhood? We'll get to the present in a moment, but right now 1 mean changes occurring roughly between your childhood and your adulthood?*

Here we are in part trying to find out, *indirectly* (1) whether there has been a period of rebellion from the parents, and (2) also indirectly, whether the participant may have rethought early unfortunate relationships and "forgiven" the parents. Do not ask anything about forgiveness directly, however--this will need to come up spontaneously. This question also gives the participant the chance to describe any changes in the parents behavior, favorable or unfavorable, which occurred at that time.

16. *Now I'd like to ask you, what is your relationship with your parents (or remaining parent) like for you now as an adult? Here I am asking about your current relationship.*

----*Do you have much contact with your parents at present?*

----*What would you say the relationship with your parents is like currently?*

---*Could you tell me about any (or any other) sources of dissatisfaction in your current relationship with your parents? any special (or any other) sources of special*

satisfaction?

This has become a critical question within the Adult Attachment Interview, since a few participants who had taken a positive stance towards their parents earlier suddenly take a negative stance when asked to describe cur- rent relationships. As always, the interviewer should express a genuine interest in the participant's response to this question, with sufficient pause to indicate that a reflective response is welcome.

17. ***I'd like to move now to a different sort of question--it's not about your relationship with your parents, instead it's about an aspect of your current relationship with (specific child of special interest to the re- searcher, or all the participant's children considered together). How do you respond now, in terms** of **feelings, when you separate from your child / children***? (For adolescents or individuals without children, see below).

Ask this question exactly as it is, without elaboration, and be sure to give the participant enough time to respond. Participants may respond in terms of leaving child at school, leaving child for vacations, etc., and this is encouraged. What we want here are the participant's feelings about the separation. This question has been very helpful in interview analysis, for two reasons. In some cases it highlights a kind of role-reversal between parents and child, i.e., the participant may in fact respond as though it were the child who was leaving the parent alone, as though the parent was the child. In other cases, the research participant may speak of a fear of loss of the child, or a fear of death in general. When you are certain you have given enough time (or repeated or clarified the question enough) for the participant's natural ly occuring response, then (and only then) add the following probe:

-----Do you ever feel worried about (child)?

For individuals without children, you will pose this question as a hypothetical one, and continue through the remaining questions in the same manner. For example, you can say, now I'd *like you to imagine that you have a one-year-old child, and I wonder how you think you might respond, in terms of feelings, if you had to separate from this child?" Do you think you would ever feel worried about this child?".*

18. ***If you had three wishes for your child twenty years from now, what would they be? I'm thinking partly of the kind** of **future you would like to see for your child I'll give you a minute or two to think about this one.***

This question is primarily intended to help the participant begin to look to the future, and to lift any negative mood which previous questions may have imposed.

For individuals without children, you again pose this question in hypothetical terms. For example, you can say,

"Now I'd like you to continue to imagine that you have a one-year-old child for just another minute. This time, I'd like to ask, if you had three wishes for your child twenty years from now,

what would they be? I'm thinking partly of the kind of future you would like to see for your imagined child I'll give you a minute or two to think about this one:

19. ***Is there any particular thing which you feel you learned above all from your own childhood experiences? I'm thinking here of something you feel you might have gained from the kind of childhood you had.***

Give the participant plenty of time to respond to this question. Like the previous and succeeding questions, it is intended to help integrate whatever untoward events or feelings he or she has experienced or remembered within this interview, and to bring the interview down to a light close.

20. ***We've been focusing a lot on the past in this interview, but I'd like to end up looking quite a ways into the future. We've just talked about what you think you may have learned from your own childhood experiences. 1'd like to end by asking you what would you hope your child (or, your imagined child) might have learned from his/her experiences of being parented by you?***

The interviewer now begins helping the participant to turn his or her attention to other topics and tasks. Participants are given a contact number for the interviewer and/or project director, and encouraged to feel free to call if they have any questions.

ATTACHMENT 2

AAI data research

coppia	Sesso	Età	titolo studio	Professione	Stato civile	tot. Figli	AAI DMM	AAI MAIN
4	0	35	3	2	1	1	C1	E1
9	0	42	3	2	1	2	A4	Ds1/U
16	0	36	3	2	1	0	(R) C1m C1(3)p	U/E3/E1
17	0	46	4	2	1	3	B5	Ds2
18	0	34	3	2	1	0	(Dp) Ul&tr(dp)suicidio zia, malattie, amico A3-4-/C2	F3/U
19	0	40	2	5	1	1	Ul(a)m (p)suocera A2(3)m,nonna/C3p triangolato	F4b/U
20	0	23	2	2	1	0	R (C1-2->B4]	F2/Ds2
21	0	40	2	2	0	1	(Dp) Ul&tr(dx)suicidio P, nascita fratello minore Utr(dpl)ustione fratello maggiore A6p,n,m/C3m [ina]	CC/Ds4/E1
23	0	27	2	2	1	0	Ul(dp)m B2	F3/U
24	0	30	3	2	0	0	A2mA3p	F2/F1
25	0	30	3	4	0	0	R (C3 triangolato -> B5)	U/CC/E1
26	0	26	3	2	1	0	Ul(dp)fidanzato A2(4)	F2
1	0	37	4	5	1	2	R [Utr(p)molestie, sep gg A3-4 -> B]	F1/U
3	0	36	4	2	1	0	(Dp) A3-4(5-6)	F4b/U
5	0	31	4	2	1	0	Ul(p)zia, nonno A2(3)m/C3p	E1
6	0	37	4	4	1	2	Ul(p)cugino BO	F5/U
8	0	32	4	4	1	0	B4-5	Ds3
10	0	30	4	4	1	0	B1-2	F4/Ds2
11	0	43	2	3	1	3	A1(4)	F5/F1a
13	0	34	2	2	1	0	C2	E2/F5
14	0	31	3	2	1	0	Ul(p)cugino B4-5	F5/E1
15	0	33	2	2	1	0	Ul (ds &p) nonno Utr(ds) abuso fisico A1(3)C3-4	F2/F5
16	0	40	3	2	1	0	Utr(n)abuso fisico C5	F2/F1b
18	0	39	2	2	2	1	Ul(ds &p)padre A3-4	F5/F2
19	0	36	4	2	1	2	B2	F4
20	0	37	3	2	1	0	Ul(ds &p) nonna materna A3-4	F2/F4b
21	0	35	4	2	1	1	Ul (ds &p) zia materna Utr(ds) abuso fisico Utr(dx) malattia A3	F3
22	0	38	4	2	1	1	DO [Ul(ds/p) nonno materno, zia, nonna materna A1,2,3,4C1,2,3,4]	F5/fF1a
23	0	34	4	2	1	0	R(A3(7)/C3 ->B)	F2
24	0	32	4	2	1	0	B1-2	F4a
25	0	37	4	2	1	1	(Dp) Utr (s) propria nascita, (ds) litigi in famiglia, Ul (s) nonna paterna, (p) sè, A+ [ina]	F4a/E1
26	0	31	3	2	1	0	C3-4	F2/F1b/Ds1
27	0	37	3	2	2	0	A1	F2/F1b/F4
28	0	38	4	2	1	0	C1-2	E1/E2
29	0	25	3	5	1	0	B4-5	F5
30	0	30	4	2	1	0	A1-2	F2/F1b
31	0	31	3	2	1	0	U Tr(ds)neglect (b)SA L(ds)F&M C5-6	CC
32	0	39	3	2	1	2	U L(v)suocero C3-4(5-6)	F2
33	0	38	3	2	1	2	B4	F5
34	0	33	4	2	1	1	A2	F3
35	0	33	4	2	1	0	C1-2	F5
36	0	36	4	2	1	1	Dp U Tr(s)PA A3-4	F5/F2/E1
37	0	31	2	2	2	0	U Tr(dx)SA (ds)neglect L(ds)F C5-6	Ds1/U
38	0	37	4	2	1	0	Dp U L(b)PA A3-4	F5
39	0	32	4	2	1	0	Dp A3-4	F2/E1/E2

coppia	Sesso	età	titolo studio	Professione	AAI DMM	AAI MAIN
2	1	31	4		2 A2C1(3)	F4a
4	1	39	2		4 A2(4m)	U/F4
9	1	46	2		3 Ul(v) fratello (per la madre) A1(4)	Ds1
16	1	39	2		4 A1C1 [Utr(p)figlia malata, ma attuale]	Ds1
17	1	47	4		2 B4-5	U/E1/E2
18	1	38	3		2 B2	F1b
19	1	41	2		2 [Ul(p,dp)m ma attuale] Utr(ds)maltrattamenti A3m,A4-p [ina]	U/F4b
20	1	26	3		2 Utr(p/ds)sep genitori R(C3->B2)	F2/F4
21	1	39	3		2 R (Ul(p)padre C3triangolato->B)	U/E1/F5
23	1	27	2		2 BO	Ds3/Ds2
24	1	37	3		3 (Dp) Ul(a)figlio A4(6)	E1
25	1	33	2		1 B3	F2
26	1	27	2		2 Ul(p, dx)p, nonna DO[A1,3,4/C5-6]	F1
27	1	38	3		2 A1(3)mC3p	Ds1/Ds2
1	1	31	3		3 B2	U/F4/F3
3	1	42	3		3 A2(4-)C1	Ds3
6	1	38	4		4 Utr(p)terremoto A4(6)	Ds1
8	1	43	3		3 B3	U/Ds3
10	1	40	4		4 B4	F2
11	1	30	3		2 Ul(p) nonna A4	F2
13	1	40	3		2 R [A+ -> B]	F5
14	1	33	3		2 DO[A3,4, C3,5]	E1
15	1	39	3		3 Utr(n) maltrattamento A3	F2
18	1	39	4		4 (R) Ul(v) fratello Ul(ds &s)mamma A3(5) -> B	F5
19	1	40	3		3 Utr (n) abuso fisico Utr(ds) separazione genitori A1(3)	F3/F4
20	1	47	2		2 Ul(ds & dp) papà e fratello A1(3)	F2
21	1	43	3		2 R (A2->B? C?)	F5
22	1	44	3		3 A1-2(4-)	F2
23	1	37	4		2 Ul(ds)nonno materno Utr(ds &p)incendio A3	F2/F3
24	1	34	3		2 A1	U/Ds3
25	1	44	3		2 A2	F4b
26	1	29	3		2 Utr(ds) neglect infanzia Ul(a) sé, padre madre A3(7)	U/E2/F4b
27	1	36	3		4 B1-2a	F3a
28	1	38	4		2 Ul(a)madre A3-	E1/E2
29	1	29	2		2 Dp U Tr(b)separazione L(s)nonna(fda) A5	Ds2/ds3
30	1	33	3		2 A1-2	F2/F3a
31	1	33	3		2 B4	U/F4b/E1
32	1	40	3		2 U L(dx)F A3-4 C3-4	Ds3
33	1	40	2		3 B1	F2
34	1	33	3		2 C1-2	F3a
35	1	61	3		4 Dp U Tr(ds)malattia L(ds)multi A+ (3-4-5)	Ds3/Ds1
36	1	36	4		4 Dp U L(ds)P A3-4	F2/F5
37	1	35	2		2 U Tr(b)PA A3-4	F2/F5
38	1	36	3		2 C1-2	F1b
39	1	37	4		4 C3-4	F2/F3

0=donna		1=elementare	1=disoccupato
1=uomo		2=medie inferiori	2=dipendente
		3=medie superiori	3=imprenditore
		4=laurea	4=libero professionista o dirigente
			5=Casalinga