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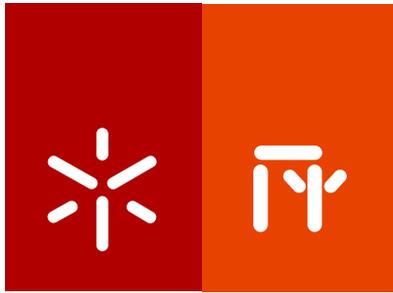
INTERGENERATIONAL APPROACH OF  
ATTACHMENT  
THE CONTRIBUTION OF INTIMATE MARITAL  
REPRESENTATIONS

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REPRESENTATIONS

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Advisors:  
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To my dearest parents and sister,  
with whom my story was fostered.

To my beloved ones, Filipe and Alice,  
for sharing with me, in their hearts,  
the Meaning of this story.

*" Escrever-te o rosto  
ainda húmido  
com palavras de areia  
Com traços de ternura  
cobrir-te o corpo de sorrisos sossegados  
e afastar-me em silêncio pela praia"*

*F.T.*

# INTERGENERATIONAL APPROACH OF ATTACHMENT

## THE CONTRIBUTION OF INTIMATE REPRESENTATIONS

### Abstract

The study of attachment intergenerational transmission, regarding the processes developed in the subjects' relational space, reports us necessarily to a contextual analysis and to the conditions under which it occurs. Under normal circumstances, the attachment figure integrates his personal experiences with the child in his mental model of close relationships, which was formed on the basis of his relationships with his family of origin (Fonagy, 1999). As a result, his way to socialize and interact with the child shall be presumed to be an expression of the caregivers' attachment story. Based on this model of assimilation of parenting it is postulated that the quality of social bonds between a child and his parent are transmitted across generations (George & Solomon, 1999).

The goal of the present study was to examine the attachment intergenerational concordance between the infants' attachment quality and their parents' attachment representations. The study of the association between the parents' attachment representations, their intimate marital representations, and the attachment generational concordance, was also one of our aims. The role of parents' attachment and intimate marital narratives' coherence on these association was explored with a particularly emphasis.

We did not find intergenerational concordance neither between the mothers and their infants nor between the fathers and their infants. However, the percentage of secure infants with secure mothers and with secure fathers was always superior to any other kind of dyadic attachment constellation. Mothers and fathers' attachment representation was not also associated. Nevertheless, as for the intergenerational concordance, the percentage of secure mothers with secure husbands is superior to any other kind of dyadic attachment constellation.

When the three family members are considered, we found significant associations between the fathers' attachment representation and the mothers-infants' attachment concordance, as well as on the concordance of the infants' attachment quality to their mothers and to their fathers. Associations on the symmetric side were not significant: the mothers of our sample seem to be more receptive to their

husbands' influences on their attachment relationship with their infants, rather than to influence the attachment relationship of the fathers with their infants. Concerning the couple's intimate representations, their association on the attachment generational concordance was confirmed. The role of the parents' attachment and marital narratives' coherence on these associations was found to be very important.

We have discussed possible reasons for the absence of attachment generational concordance in our sample, depending on attachment factors alone or taken together with marital representations factors. We then conclude with a speculative model that aims at contribute to the theoretical explanation of this complex multifactorial process, as well as with some clinical and future research propositions.

# ABORDAGEM INTERGERACIONAL DA VINCULAÇÃO

## A CONTRIBUIÇÃO DAS REPRESENTAÇÕES ÍNTIMAS CONJUGAIS

### Resumo

O estudo da transmissão intergeracional da vinculação, relativo aos processos desenvolvidos no espaço relacional, remete-nos necessariamente para uma análise contextual das condições em que este ocorre. Em circunstâncias normais, a figura de vinculação integra as suas experiências pessoais com a criança no seu modelo mental de relações íntimas, que foi formado com base no seu relacionamento com a família de origem (Fonagy, 1999). Como resultado, a sua forma de interagir com a criança presume-se que seja uma expressão da história de vinculação do prestador de cuidados. Com base neste modelo de assimilação da parentalidade postula-se que a qualidade dos laços sociais entre a criança e os seus pais seja transmitida entre gerações (George & Salomon, 1999).

O objectivo do presente estudo foi o de examinar a concordância intergeracional da vinculação entre a qualidade de vinculação dos bebés e as representações de vinculação dos seus progenitores. O estudo da associação entre as representações de vinculação dos pais e mães, as suas representações íntimas conjugais e a concordância geracional da vinculação foi igualmente outro dos nossos objectivos. O papel da coerência na narrativa dos progenitores no que concerne à vinculação e à relação íntima conjugal nesta associação intergeracional foi explorado com especial ênfase.

Não foi encontrada concordância intergeracional entre as mães e os seus filhos, nem entre os pais e os seus filhos. No entanto, a percentagem de crianças seguras com mães seguras e com pais seguros foi sempre superior do que qualquer outro tipo de combinação diádica da vinculação. As representações de vinculação das mães e dos pais também não se evidenciaram associadas entre si. No entanto, como para a concordância intergeracional, a percentagem de mães seguras com maridos seguros é superior a qualquer outro tipo de combinação diádica da vinculação.

Quando os três membros da família são considerados, foram encontradas associações significativas entre as representações de vinculação dos pais e a concordância da vinculação entre as mães e os seus filhos, assim como com a concordância da vinculação das crianças às mães e aos pais. Associações no sentido simétrico não foram significativas: as mães da nossa amostra parecem ser

mais receptivas à influência dos seus maridos no relacionamento com seus filhos do que influenciar a relação de vinculação dos pais com os seus bebês. No que diz respeito às representações íntimas conjugais, a sua associação com a concordância geracional da vinculação foi confirmada. O papel da coerência da narrativa dos progenitores no que concerne à vinculação e à relação íntima conjugal mostrou-se muito importante.

Os nossos principais resultados foram discutidos no à luz de possíveis razões para a não concordância geracional da vinculação na nossa amostra, tendo em conta os factores de vinculação considerados isoladamente ou em conjunto com as representações íntimas conjugais. Concluimos com um modelo especulativo que visa contribuir para a explicação teórica deste complexo processo multifactorial, bem como com algumas propostas clínicas e de investigação futura.

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## Introduction

The Latin etymology of the word *transmission* evokes the notions of "pathway", "passing", "send to the other (side)". Because of its multiple epistemic horizons, this concept may have several semantic connotations. Epistemologically belonging to the psychological sciences, *attachment transmission* has been defined by several authors as the process through which the parents' current mental representations of their past attachment experiences influence their parental behaviour and the attachment quality between their children and them (Bowlby, 1969/1982; Fonagy, Steele, & Steele, 1991; Main, Kaplan, & Cassidy, 1985; Hesse, 1999).

Although being a process to which Bowlby has referred to since his first written works, he saw no empirical support until the 1980s, when the development of the *Adult Attachment Interview*, by Main et al. (1985), enabled the analysis of the parallels between the parents' attachment organisation and that of their children. This methodological evolution made possible the transition from the babies' attachment behaviour assessment (*Strange Situation Paradigm* of Ainsworth, Blehar, Waters, & Wall, 1978) to the adults' internal working models assessment. In other words, it allowed attachment research to move from a behavioural to a representational level (Main *et al.*, 1985).

Considering the two levels described above as representing the first and the second generation of the empirical development of the Attachment Theory, the ecosystemic or contextual level of attachment will then correspond to its third generation. Attachment organisation appears now as a dependent variable of other contextual variables and not as a strictly independent one, which determines or influences *per se* the individual's psychosocial development.

The *attachment transgenerationality* is the object of our study. Following Bowlby's assertions, we stress the reciprocal character of the attachment relationship, where communication, which holds the leading role in the study of circular processes, is a vehicle for understanding intergenerational (dis)continuities. In this context, we may say that the attachment organisation is forged in a communication relationship

that goes far beyond its dyadic features. As so, the attachment organisation influences and is influenced by the nuclear family system in cycles of dialectic interactions.

The linguistic sciences have proposed a descriptive diagram of the communication relationship in the domain of the language (Chomsky, 1977). It is possible to inspire ourselves in this model of intelligibility to represent the transmission process: *one subject X communicates to the subject Y one transmissible reality, according to a certain procedure, in a human context where the interaction of the subjects X and Y is efficient.* The fact that the subject Y is individual or collective slightly modifies the pedagogy of transmission without changing, however, the nature of the transitivity process. Conscious that this issue imposes a dialectic positioning, and that the intervenient elements are likely to influence and to suffer influences, we aim our study at the reflection of the *generational agreement of attachment processes.* We express the matter in this manner because the empirical works developed until now, evidencing this attachment agreement, are bigger in number (cf. revision of Hesse, 1999), particularly with regard to secure organisations. However, even if this high percentage of attachment generational agreement speaks by itself, the possibility that it does not occur, plus the need for a sensitive explanation of its *why*, lead us to concentrate more incisively on the transmission process. In particular, we aim at analysing the role of the intimate representations of the couple subsystem in this process of generational (non)agreement of attachment between the two parents and their baby.

As mentioned before, the relational character of the attachment study leads us to an analysis of its contextual conditions. We now know that, in normal circumstances, the attachment figure integrates his personal experiences with the child in his mental model of intimate relationships, which has been formed on the basis of his relationships with the family of origin. As a result, the way he socializes and interacts with the child will be, in part, an expression of the caregiver's attachment history. It is assumed that the association between the child's attachment and the one of the caregiver is mediated by parental practices, namely by his parental sensitivity. It is based on this concept that it is argued that the quality of the affective ties between a child and his parents is transmitted across generations.

In an attempt to explain this *transmission gap*, many authors have tried to go beyond parental sensitivity, emphasizing that much of the influences involved in this process operate through other mechanisms not yet completely known, understood or empirically validated. It is in this sense that we highlight the role of *Mind-Mindedness* (Meins *et al.*, 2001) and the role of *Reflexive Function* (Fonagy,

2005), as well as the contribution of marital and family *Communication* (Bretherthon & Munholland, 1999) and *Emotional Atmosphere* (Cummings & Davies, 2001) for better a understanding of attachment transmission. The two first constructs are examples of proximal factors, which have been studied as a part of a set of cognitive mediators intrinsic to parenthood. The marital and family quality belongs to a group of processes of a distal or contextual nature that Belsky (2005) proposes as determinants of the parental practices. A growing number of recent researches have showed that both the mother and the father are more likely to provide a more sensitive, responsive and developmentally adequate parental care when their marriage is harmonious and satisfying (see review, Belsky & Jaffe, 2004). Thus, the marital quality seems to influence the child's attachment security in two distinct ways: a direct one, via emotional atmosphere and communication, and an indirect one, via parenthood.

Coming back to Chomsky's model (1977), applied to the intergenerational transmission, we consider as transmissible the cultural objects that, being assimilated by individuals, are modified in their transfer practices. Not all civilizational objects can or should be transmitted. The transmission procedures have multiple origins and do not identify themselves just with the child's education. Instead, these procedures lay down on different modalities of learning, such as through examples and by witnessing, which are accompanied by specific language solutions. These methodologies are not equivalent, do not imply the same parameters, do not seek the same immediate objectives, and do not know the same dysfunctions. Within the family transmission domain, the question of the subjects' interaction cannot therefore be neglected, since the directivity, spontaneity and universality of the family interactions are to be the generators of their interpersonal linguistic communication. Moreover, the rituals and the family practices constitute another kind of interaction between the subjects (in this case, the *doing* puts itself at the forefront of transmission). In short, a joint experience of the various family members promotes the creation of concrete forms of interaction between them, helping to create a particular family emotional atmosphere.

Our work proposition concerns the clarification of the interactional mechanisms inherent to intimate representations that may contribute to the eventual occurrence of this cross-generational transmission of attachment. Even if empirically they are strongly correlated, the conceptual explanation often remains poorly developed. The complex character implied in a multifactorial theorization of this kind seems to contribute to the lack of more elucidating proposals in this area. Interaction rings that mutually influence themselves in a complex way relate these communicational events, and each one is both cause and effect of the other (Bateson, 1951). The modification of one of these system elements involves the

modification of all the others, as well as the relationship between them, that is, of the family system itself (Bertalanffy, 1932). From an empirical point of view, studies show an association between attachment security and narrative coherence in the moment in which individuals evoke their attachment stories (Main, 1991). These findings lead us to also explore in our study, the existence of an association between the narrative coherence of the spouses (when evoking their couple relationship) and the coherence of their narratives when referring to their past attachment stories (with their own parents).

Within this conceptual framework, our study is aimed to study attachment intergenerational concordance between the infant's attachment quality and their parents' attachment representations, exploring the contribution of the parents' attachment and of intimate marital representations on that concordance. The role of parents' attachment and marital narratives coherence on these associations will also be explored with a particularly emphasis.

We organise this dissertation according to the following moments. In Chapter 1, we present a conceptual reflection held around the key constructs of the Attachment Theory, chosen according to their relevance to the understanding of the attachment intergenerational approach. We begin with a summary of the main bowlbian assertions and follow on to a deepening of the "Attachment Behaviour System" concept, in which the contribution of the parental practices for the development of the young individual attachment relationships assumes a preponderant role. The discussion around the construct of "Attachment Working Models" will be predominantly focused on issues related to the role of defensive processes on the development of individual's attachment differences. These working models' reformulation potential, as well as the mechanisms inherent to the emergence of new attachment representations (particularly those related to the marital relationship) are also objects of our reflection. We follow with a reference to the theoretical processes of attachment intergenerational transmission, a theme that is discussed throughout the dissertation.

Chapter 2 is dedicated to the empirical study of attachment intergenerationality. Attachment theory researchers have examined the question of attachment transmission determining the extent to which security measures of the child are related to their parents' attachment status. In this context, Mary Ainsworth's *Strange Situation* research methodology will be discussed in detail. The contribute of parental practices for the development of the child's working models, which leads to different attachment patterns, and the impact of these individual differences in the subsequent psychosocial development of children will also be examined. In the domain of attachment empirical study in adulthood, we point out the assessment methodology of Mary Mains' *Adult Attachment Interview* and analyse the psychosocial

studies conducted within the framework of "Romantic Reciprocal Attachment", given its relevance to the understanding of the association between attachment and conjugality. The chapter proceeds with a review of the major correlational and causal studies on the attachment intergenerational approach and is concluded with a presentation of the small amount of data currently available on the study of the role of conjugality in the attachment intergenerational approach.

In the dissertation's second section, we look into the elements of the empirical study itself, as we state our aims, research questions, and disclose our entire methodological procedure. We then conclude by exposing and discussing our results.



## **Part I – Conceptual and Empirical Framework**

## Chapter 1 – The Ontogeny of Human Attachment

The Attachment theory knows two central names associated to its original formulations: John Bowlby, in the second quarter of the twentieth century, and Mary Ainsworth, in the last quarter of the same century. Bowlby occupied an irreplaceable place by conceptualizing a new theoretical approach that considered the whole human beings' life cycle (Bowlby, 1969/1982, 1973/1979, 1980). Ainsworth's contribution was highlighted by the creation of an empirical methodology that corroborates Bowlby's postulates regarding early childhood: the paradigm of the *Strange Situation* (Ainsworth, Blehar, Waters, & Wall, 1978). It was only in the 80's however, with Mary Main, that it was possible to develop the methodological requirements for the empirical study of attachment in adulthood: the *Adult Attachment Interview* (George, Kaplan, & Main, 1984, 1985, 1996). The contribution of the last two researchers will be exposed in two subsequent segments of this dissertation. In the next section, we propose to systematize the theoretical assertions on the study of Attachment, so that we may frame, in a careful reflection, our theme of study.

## 1. 1. Conceptual Foundations of Attachment Theory

The historical relevance of the Attachment Theory lies on its primary aim of integrating aspects of the ethological, psychoanalyst and socio-cognitive sciences. As an integrative theoretical network of social behaviour and individual's personality, it exceeds each one of these approaches with the necessary assertions for the establishment of a new theoretical line. Emphasizing the relational dimension of psychological development, the individual is considered as an integrated system of cognitive, emotional and behavioural domains, which interact between themselves and with the environment, in a constant mutation (Rothbard & Shaver, 1994). Starting with the study of the effects of mother deprivation on the child's personality development, Bowlby keeps his distance from the psychoanalytic origins, by considering this paradigm "*an unsatisfactory meta-psychological superstructure*" (Bowlby, 1980, p. 38), and gives rise to an innovative conceptual space that would later be accepted by many psychological approaches.

At the origin of his attachment theory formulation, Bowlby (1958) suggests that infant's attachment to the caregiver is based on behavioural equipment that is constituted by a set of "instinctive answers" or patterns of behaviour specific to the specie. Somewhat independent amongst them, these patterns emerge at different times, organizing and directing themselves towards the attachment figure in order to structure the bond between child and caregiver. The author has identified five of these answers as specific contributions to the development of the child's attachment – sucking, clinging, following (approaching behaviours), crying and smiling (signalling behaviours) – which become integrated and addressed to the attachment figure in the course of the first year of life, giving rise to what he describes as *attachment behaviours*.

In a second moment, Bowlby (1969) recognizes that more sophisticated forms of association between the attachment behaviours could forge an *attachment behavioural system*. The author uses the concept of *system behaviours*, with an ethological basis, to describe an organization of specific behaviours of the species, which activate certain predictable outcomes, from which at least one contributes to the reproductive success. The notion of *attachment behavioural system* relates to this definition because it refers to a system that is postulated as controlling several types of attachment behaviours (Soares, 1996). Guided by the general principles that

define behavioural systems, we analyze, in what follows, their characteristics (Bowlby, 1969/1982; Hinde, 1982; Cassidy, & Shaver, 1999).

From an evolutionary point of view, the behavioural systems include the coordination of behaviours in order to achieve a specific goal and an adaptive function, which is extended for long periods of time. In this sense, attachment behaviours have become a feature of many species during the course of evolution, since they have contributed to the survival of the individual. In contact with the caregiver(s), the immature subject sees reduced the risk of being harmed, for instance, by coldness and hunger and, in an environment of human evolutionary adaptation, by his predators (Bowlby, 1980).

As control systems and due to the organism-environment interaction, the behavioural systems involve a gradual integration of behaviours in increasingly more complex and sophisticated sequences that become functional over time. The *attachment behaviour*, in this sense, is conceived as any form of behaviour, simple or organised, which results in proximity seeking/maintenance towards a distinct and preferred individual. While this *attachment figure*<sup>1</sup> remains accessible and responsive, the behaviour may be confined to visual or auditory monitoring, a sporadic exchange of glances and occasional compliments. In certain circumstances, however, pursuing or clinging on to the attachment figure may occur (careseeking role). The complementary and functional behaviour of attachment (*i.e.*, to protect the attached individual) gives rise to the caregiving role. A parent, or other adult, commonly displays this behaviour towards the child or adolescent, but it may also take place amongst adults, especially in times of illness, advanced age or stress (Bowlby, 1980). We are therefore dealing with an asymmetrical and reciprocal relationship, where the need to obtain information on relevant events, is continually monitored and evaluated through a complex system of verbal and non-verbal communication, in circular sequences of interaction (Tereno, Soares, Martins, Sampaio, & Carlson, 2007).

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<sup>1</sup> Concerning the use of the term *attachment figure*, we assume, throughout the dissertation, Bowlby's position: "Although throughout this book, the text refers usually to 'mother' and not to 'mother-figure', it is to be understood that in every case reference is to the person who mothers a child and to whom he becomes attached. For most children, of course, that person is also his natural mother" (1969/1982; p.29). In our work, this note has special relevance, since the father's role, as an attachment figure, contrary to Bowlby's empirical observations and to a vast number of other researches in this field, is also an object of study.

Regarding the activation and termination processes, the behavioural systems function with internal and external sensors, guided at the biological level by a feedback mechanism that monitors internal signals (*e.g.*, central nervous system activity; hormonal system) and external signals (environment; Bowlby, 1969/1982; Hinde, 1982; Cassidy & Shaver, 1999). As long as an attachment relationship subsists, the inherent attachment behaviours are only active when required. Congruently, the systems that mediate the attachment behaviour are activated only under certain conditions – unfamiliar environment, tiredness, fear, disease, hunger and unavailability or non-responsiveness of the attachment figure – and are terminated only by other specific conditions – familiar environment, availability and immediate responsiveness of an attachment figure. Still, when the attachment behaviour is strongly activated, its termination may involve touching, clinging, or an actively reassuring behaviour from the attachment figure (Bowlby, 1980).

As mentioned before, behavioural systems are related to and interact with other behavioural systems. As a behavioural category with particular dynamics, the attachment behaviour is conceived as separate from food and sexual behaviour, having at least the same importance to human life. Nevertheless, it can be simultaneously activated with other behavioural systems, as fear, exploratory and sometimes social behaviours. Among these, the dominant system in terms of activation intensity will be the one to be externally manifested at a given moment. When two behavioural systems are close in their level of activation, it is likely that both are represented in different external behaviours - for example, under alternate or mixed forms (Ainsworth *et al.*, 1978). Moreover, the caregiving parental behaviour, complementary to the attachment dynamics, emphasizes the reciprocity dimension of attachment, leading us therefore to point out the presence of mutually influenced mechanisms in the patterns of child-attachment figure communication.

In regards to the information process theory, Bowlby (1969/1982) also suggests that the organization of the attachment behavioural system involves cognitive components. In this line of thought, the behavioural systems are considered goal-corrected systems. In other words, the necessary behaviours to achieve a certain goal are adjusted in a flexible, not random way, to a wide variety of environments as well as to the individual's development. Similarly, the attachment behaviour is mediated by behavioural systems that, from an early stage, become goal-corrected. The main purpose of the attachment behaviour is the maintenance of certain levels of proximity or of communication with the discriminated attachment figure(s) (Bowlby,

1980). We now know that homeostatic systems of this kind are so highly structured that they are able to detect, through feedback mechanisms, any discrepancies between the initial instruction and the current outcome, so that the behaviour can be modified according to that initial information.

The last principle of behavioural systems also relates to the information process theory and considers them as being organized and incorporated in specific cognitive control systems - in the case of humans, in mental representations (Bowlby, 1969/1982; Hinde, 1982; Cassidy & Shaver, 1999). The behavioural attachment system is constituted not only by behaviours, but also by cognitive and emotional components. By means of the infant's interaction with the attachment figures during the first year of life, he will gradually build a body of knowledge and expectations about the way these figures react and respond to his requests of assistance and protection (in accessibility and responsiveness terms), as well as about the self, in terms of self-value and ability to influence others. Bowlby (1969/1982) designates this knowledge and these expectations (constructed from the repeated interactions with the attachment figures and internally organized in the form of generalized representations of the self, of the attachment figures and of the relationships) as *attachment internal working models*. These internal models allow the subject to make decisions on his attachment behaviours regarding a particular figure, to anticipate the future and to make plans, leading him to operate more efficiently. In this sense, in operative terms, the attachment system can be considered as a process of a cognitive-behavioural-emotional nature (Soares, 2002).

According to Bowlby (1973/1979), emotions are strongly associated with attachment: *"Many of the most intense emotions arise during the formation, the maintenance, the disruption, and the renewal of attachment relationships. The formation of a bond is described as falling in love, maintaining a bond as loving someone, and losing a partner as grieving over someone. Similarly, threat of loss arouses anxiety and actual loss gives rise to sorrow; whilst each of these situations is likely to arouse anger. The unchallenged maintenance of the bond is experienced as a source of joy"* (p. 130). During the course of a healthy development, the attachment behaviour leads to the development of emotional bonds or attachments<sup>2</sup>, which

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<sup>2</sup> Attachment is a specific type of what Bowlby and Ainsworth name « affectional bonds ». According to Ainsworth (1985) the attachment concept may be defined in reference to an ensemble of criteria: a) it is persistent and not transitory; b) it involves a specific figure and reflects the attraction that an individual has for another; c) it is an emotionally significant relationship; d) the individual wishes to maintain the proximity or the contact with that figure, although this varies according to several factors such as age, individual state or environment conditions; e) the

initially occur between the child and his parents and later among adults. The experiences that the subject has had with his attachment figures during his years of immaturity – infancy, childhood and adolescence – determine the path over which the individual's attachment behaviour develops, and the pattern in which it becomes organized.<sup>3</sup> The way the individual's attachment behaviour becomes organized within his personality influences the pattern of affective bonds that he will establish during his life.

Considering the attachment behaviour as potentially active throughout the life cycle and as having a biological function in itself, it becomes a big mistake to assume that it is a pathological indicator or a regression to immature behaviours when active in adult life. *"The latter view, which is characteristic of almost all other versions of psychoanalytic theory, results from conceptualizations derived from theories of orality and dependency which are rejected here as out of keeping with the evidence"* (Bowlby, 1980, p.41). The psychopathology is now seen as a diversion of a person's psycho-developmental pattern, and not as a fixation or a regression to any initial developmental stage. There may be attachment behavioural dysfunctional patterns at any age due to path deviations throughout the subject's development. One of the most common forms of disorder is the elicitation of compulsive attachment behaviour, resulting in an anxious attachment. Another possible disorder is characterized by the switching off of the whole or part of the attachment behaviour<sup>4</sup>.

Focused on the maternal care deprivation, Bowlby also refers, since his first written works, to the magnitude of such adversity for individual's development, stressing the size of its social impact. *"Deprived children are a source of social infection as real and serious are carriers of diphtheria and typhoid (...) the neglected psychopathic child growing up to become the neglectful psychopathic parent... A self-perpetuating social circle"* (Bowlby, 1951; p. 157). He justifies the pessimism of his assertion with reference to the tendency that cycles of disadvantage have to be reproduced across generations.

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subject experiences a certain disruption when facing an involuntary separation, specially when he wishes proximity and that's not possible; f) there is search for security and comfort in the relationship with that person. This last criteria is determinant to distinguish "parental bonds" and the "child's attachment to his parents" (Cassidy, 1999).

<sup>3</sup> Ainsworth and cols. (1978) identified three main patterns or behavioural attachment organizations: insecure-avoidant pattern; secure pattern; insecure-resistant or ambivalent pattern. We will proceed to their explanation on Chapter 2.2.

<sup>4</sup> Some authors (*e.g.*, Crittenden, 1999) propose that these differences, considered here as developmental disorders, are to be considered as a child's adaptive strategies to the caregiver's practices. In our opinion, these two formulations should not be seen as incompatible, in so far as the existence of a disorder should not be considered unless a certain level of attachment system's (hyper/de)activation is present.

Summarizing, the Attachment Theory conceptualizes a set of transversal assertions to the biological and evolutionary context, by recognizing the attachment biological basis and its phylogenetic development. In this sense, *attachment* defines a behaviour control system: a system that organizes and guides the individual's conducts or activities in order to achieve certain set goals, which have had an adaptive function and a survival value in terms of evolution (Bowlby, 1969/1982). The aim of the attachment system is proximity keeping with the caregiver and its function is to ensure the safety and protection of predation dangers, increasing the likelihood of survival (West & Sheldon-Keller, 1994) of the immature (or weakened) individual and therefore the continuity of the species across generations. The (un)availability of the attachment figure walks hand in hand with attachment (in) security: the experience of safety is associated with an assessment of the attachment figure as available, and that of anxiety or insecurity is related to the perception of threat to this availability (Soares, 2002). Its intergenerational emphasis leads us to its relational dimension, for it is conceived as an interactive process that is transmitted across generations. Given the relevance for Attachment Theory of the constructs of *attachment behavioural system* and *attachment internal working models*, we will now further develop their most prominent features in what refers to our topic of study – the intergenerational agreement of attachment.

## **1.2. Attachment Behavioural System**

The context in which a given child is raised is a crucial component for the development of the behavioural systems that mediate the attachment's formation. Because the vast majority of children grow in a family environment with a minimal quantity of common characteristics, this process develops in a comparatively stable way. When theorizing about those common denominators Bowlby states - "*When he is born, an infant is far from being a tabula rasa*" (1969/1982, p.265). In contrast, the infant is born equipped with a number of systems ready to be elicited by environmental stimuli. Each system is prone to being activated, terminated, strengthened or weakened by a specific set of stimuli adequate to each situation. As mentioned in the previous point, some of these behavioural systems are basilar stones for attachment development – crying, suction, clinging, and orientation of the newborn.

In order to make an attachment relationship possible, there are four pre-determinant processes that should gradually make part of the infant's cognitive skills (Bowlby, 1969/1982): firstly, a predisposition to look progressively to certain patterns of stimuli despite preference to others, as well as to moving stimuli; secondly, exposure learning, through which familiar is gradually distinguished from strange stimuli; thirdly, a predisposition to gradually approaching the familiar, and later to withdraw from the strange; and lastly, an integration of feedback results, by which a behavioural sequence is increased when followed by certain results, and decreased when followed by others (*e. g.*, the more an infant watches his mother the more likely she moves towards him, gestures, talks or sings, or hugs him. The infant's visual orientation and watching capacities are increased by the feedback provided by the infant's behaviours).

Bowlby suggested that the development of the attachment behavioural system runs in four phases, being that the first three take place during the first year of life and the fourth one begins around the child's third anniversary. They are designated as: Phase I – *Orientation and signals with limited discrimination of figure*, Phase II - *Orientation and signals directed to one (or more) discriminated figure(s)*, Phase III – *Maintenance of proximity to a discriminated figure by means of locomotion and signals*, Phase IV - *Formation of a goal-corrected partnership*<sup>5</sup>. We will explore, in what follows, the processes inherent to each of the referred phases. When suitable, we will discuss tangent topics relevant to attachment theory, allowing them to emerge at the appropriate stage.

*Phase I: Orientation and signals with limited discrimination of figure.*

This phase figures in the first eight to twelve weeks of the infant's life. Although he is not yet able to differentiate people (except according to olfactory and auditory stimuli) he tends to orient himself preferentially towards human beings. This propensity promotes and enhances contact proximity and maintenance with human figures and relates to the behaviours that the infant directs towards them – following with the eyes, clinging, smiling, babbling and stopping to cry when hearing a human voice or seeing a human face. This fixed action pattern has its

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<sup>5</sup> Ainsworth (1972) has designated phase I as: *Initial pre-attachment phase*; phase II as: *The phase of attachment-in-the-making*; phase III as: *The phase of clear-cut attachment*; and phase IV as: *The phase of a goal-corrected partnership*.

piagetian equivalent (1936)<sup>6</sup> on the author's *reflexive schemes* notion<sup>7</sup>. The intensity of these behavioural events reaches its higher level of sociability at twelve weeks when the infant, having already consistently discriminated the attachment figure through visual clues, moves to the next stage (Ainsworth *et al.*, 1978).

*Phase II: Orientation and signals directed to one (or more) discriminated figure(s).*

We assist to the emergence of the infant's differentiated responsiveness ability, focused on the figure(s) with whom he begins to establish a particular relationship. Without having a clear beginning and being a gradual process that depends on the attachment figures and on the specific circumstances, the infant's behaviour differentiation ability develops somewhere between the twelve weeks and six months of life. This new acquisition is based on the infant's tendency to be preferably oriented to a particular type of stimulus and to be closer to what is familiar to him. The development of this discriminatory ability seems to involve, in piagetian terms (1936), the processes of *recognitory assimilation* and of *discriminatory learning*<sup>8</sup>.

*Phase III: Maintenance of proximity to a discriminated figure by means of locomotion and signals.*

This stage begins around six or seven months of age and extends itself until the end of the second or the beginning of the third year of life. It is characterized by a range of motor, cognitive and communicative changes that are very important for the behavioural systems' internal organization. At this stage, it is considered that the infant consolidates his attachment to the caregiver. Given the importance of the developmental markers that accompany these

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<sup>6</sup> Far from intending to address the cognitive development of the infant here, we think it's relevant to briefly refer to it in order to illustrate the parallel between the emotional processes of each stage and the necessary concomitant emergence of some specific cognitive structures that enable them.

<sup>7</sup> A *scheme* is the actions' organization or structure, which is transferred or generalized, in a moment of action repetition, in similar or equivalents circumstances (Piaget, 1936).

<sup>8</sup> The process of *assimilation* refers to the mechanism by which the individual integrates all acquired links in a previous schema or structure. The individual's organizing activity is considered as important as the inherent links to external stimuli, for the individual only becomes sensitive to them because these structures are assimilable to the "old" ones. The last, in turn, will be changed and enriched due to the new assimilations. The reproductive or functional assimilation (*e.g.*, the suction of the mothers' nipple reflex) leads to *generalized assimilation* (*e. g.*, the thumb suction) and to *recognitory assimilation* (*e. g.*, discrimination between the mother's nipple and other objects). These mechanisms are the developmental basis for the processes of *discriminatory learning* (Inhelder & Piaget, 1966).

changes, we will pay particular attention to this stage, proceeding to a detailed discussion of each of these evolutions.

*Emergency of new attachment behaviours*

Despite the fact that some researchers consider that the child is attached in phase II, since his behaviour is differential in relation to one or more adults, it is during phase III that most experts agree that the infant is really attached, being that organizational changes are observed in his behaviour (Marvin & Britner, 1999) during this phase. The most obvious change occurs at the locomotive level. There is a variety of new behaviours that can be differentially observed during this phase such as approaching and following the attachment figure (in reunion situations or when the mother goes away); exploring the environment by using this figure as a safe haven; hiding one's face in the figure's lap, and clinging onto her. According to Ainsworth and cols. (1978), an infant doesn't need to be attached to a specific figure or to organize his behaviour in a goal-corrected system until his locomotive skills make it possible for him to part from this figure and explore the world, putting him in situations of significant danger.

*Information processing, communication and internal working models*

A second change, equally important, relates to the increasing complexity of the child's cognitive skills. Some of the mediator systems of the child's attachment behaviour and many of his previous behaviours, linked until now in a simple chain, become organised under the child's intentional control. Bowlby suggests that in phase III the infant has an internal image of a set-goal which he wants to reach (*e.g.*, physical contact with the attachment figure). He can now internally manage his available behaviours (*i. e.*, he's able to draw up a plan) and select those that are favourable to him to achieve his goal (*e. g.*, to crawl around a couch towards the attachment figure); implement the plan; change it depending on the feedback that he gets, and conclude it when the discrepancy between his goal and his position perception will be reduced to zero (Marvin & Britner, 1999). According to Ainsworth and cols. (1978), this is how the child's behaviour begins to operate through a goal-corrected system, and gradually becomes hierarchically structured around global plans.

This new cognitive skill that emerges during this period implies that the infant has a mental image of the attachment figure which is independent of his perception. In other words, the notion of attachment includes the conceptualization of an attachment figure, existing even if absent, persistent in time and space, which moves itself in a more or less predictable space-time continuum (Ainsworth *et al.*, 1978; Bowlby, 1969/1982) - in piagetian (1936) terms, the infant has acquired the *object permanence*<sup>9</sup> notion. By then, the infant starts to use environmental events as clues to others that succeed them, being able to anticipate, if they have a reasonable degree of consistency, the attachment figure's actions.

Concomitant to the motor and cognitive changes are the modifications in the child's verbal and non-verbal communication skills. Already present in phase II, under a pre-linguistic form, it is in phase III that the communicative signals are used in a goal-corrected way. Being part of the action plans repertoire, these signs serve to regulate the others' behaviour in order to achieve certain purposes, including: to request or reject objects or actions, to attract or retain the others' attention, and to establish and maintain the others' joint attention to share an experience (Bruner, 1981). The use and understanding of non-verbal signals precedes the employment of single words. Finally, through a complex verbal communication at 18-36 months, the child and his caregiver are able to change indirectly the behaviour of each other by modifying, at the representational level, the set-goals of each other (Marvin, 1977).

All these changes have important consequences for the infant's attachment internal working models. At this point, the child has already distinct working models regarding the self and his caregiver. They consist on images and plans (*i. e.*, schemes / scripts of events, of the self and of the others) that, based on the infant's recent ability to operate within these images and probabilities of behaviours, organize themselves in some sort of hierarchy. We suppose that their contents derive from the combination of fixed action sequences (developed in the relationship with the caregiver during phase II) with the patterns emergent from the recent motor, cognitive and communicative skills (developed during Phase III). Although they are far

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<sup>9</sup> According to Piaget and Inhelder (1966), the sensory-motor intelligence has fairly important consequences for the structure of the individual's universe, where he organizes the reality by constructing main action categories that are the *object permanent schemes*. These schemes are dependent on spatial, temporal and causality sub-structures. None of these categories exists at the beginning when the infant's universe is entirely focused on his own body and actions in a complete and unconscious egocentrism (due to his lack of self-consciousness). During the first eighteen months, we assist to a kind of Copernican revolution, generally called descentration: the child ends up an object among others in a universe formed by permanent objects, structured in space and time and possessing a causality role itself.

more sophisticated than in the previous phase, the internal working models remain very primitive (Ainsworth, 1969): the child thinks about the caregiver and about the self, only in terms of their behaviour, failing to think about them in a long sequence format. He cannot understand that the attachment figure holds perceptions and intrinsic objectives and that they may differ from his own (Marvin & Britten, 1999).

### *Sensitive periods*

During the first five or six weeks of life, it seems unlikely that a newborn would be ready to develop an attachment directed to a discriminated figure. He does not have the skills or a behavioural organization system, other than his rather primitive relational format, which enables him to interact socially. Despite this initial limitation, the ability to develop attachment increases during the infant's second and third month of life. According to Bowlby (1969/1982), the fact that, during phase III, the elements of the attachment system are clearly established in many children suggests that during the preceding months - fourth, fifth and sixth - most infants are in a high state of sensitivity to the development of attachment. After the sixth month of age, this process can become more challenging since there is a progressive increase in the intensity with which the infant manifests his responses of fear. This is associated with his greater discriminatory ability to distinguish between familiar and strange stimuli, typical of the third phase. Nevertheless, if inserted in a social context with a minimum amount of stimulation, the infant's readiness to develop attachment may be maintained at least until the end of the first anniversary. After the second year of life, these difficulties are already of high degree, tending not to diminish (*idem*).

### *Principle of Monotropy*

Since his original writings, Bowlby suggested that the child tends to be attached to a range of caregivers, suggesting that "*for a child of 18 months to have only one attachment figure is quite exceptional*" (Bowlby, 1969/1982, p.304). Clearly, the child does not treat all attachment figures in the same way. Despite being attached to several people, when more than one attachment figure is available, children tend to focus on a particular individual (especially in situations of pain, hunger, fatigue or illness). The author attributes this tendency to the principle of "monotropy", which implies the existence of a hierarchy of the attachment figures – consisting

of a main or primary one and others more subsidiary or secondary. Many children seem to have a network of attachment figures, but tend to select one of them as the primary attachment figure during the phase III of the attachment development process, choosing the others for main playing figures or for another type of interaction. The infant's choice of the main attachment figure depends, largely, on who provides the care he needs and on the composition of the household, since his increasing ability to discriminate family stimuli influences this process. In almost every culture the likelihood that the attachment figure is the birth mother, the father, one of the older brothers or the grandparents, is very high, being also among these people that the child selects his subsidiaries attachment figures (Bowlby, 1969/1982). We will come back to this matter in chapter 2, when we examine the influence of parental practices in the development of attachment, exploring potential distinctions when they are associated with the maternal or the paternal figure.

#### *Phase IV: Formation of a goal-corrected partnership*

During phase III the child's proximity to an attachment figure begins to be maintained by means of a goal-corrected system, of simple organization, that uses a somehow primary cognitive map. As mentioned earlier, with this map, the attachment figure begins to be perceived as an independent object, persistent in time and space, moving in a space-time continuum in a more or less predictable way. Nevertheless, the infant is not yet able to understand what factors influence the caregiver's behaviour or what he can he do to change the other's behaviour. In this fourth and final phase, we gradually witness the withdrawal of the child's egocentric position, leading him to be able to observe things from the attachment figure's point. Consequently, the infant is now able to recognize which of his own feelings, motives, goals and plans influence the caregivers' behaviour. *"Once that is so, the groundwork is laid for the pair to develop a much more complex relationship with each other, one that I termed the partnership."* (Bowlby, 1969/1982, p. 268)

This phase comes after the child's third year of life and involves a significant cognitive progress, especially in what concerns the language level as a medium of communication; the emergence of the perspective-taking capacity, though primitive, offers the opportunity to abandon an egocentric position; the goal-corrected behavioural systems have now a more sophisticated organization. The quality of the child's interactive experiences, as well as the new

skills acquired for perspective-taking purposes, seem related to the success in proximity maintenance and communication with the attachment figures. Another important attribute at this stage concerns the child's ability to accept gradually more prolonged separations from the attachment figures. His sense of security is still closely linked to the parents' proximity, but he possesses now a greater ability to tolerate their distance (Parkes & Stevenson-Hinde, 1982). This change doesn't imply a mitigation of attachment, but rather an alteration in the conditions that activate the attachment system (Marvin, 1977). Once the attachment figure's representational model, established in the course of experiment, is consolidated, the child becomes able to suspend his relationship with that figure for progressively longer periods, without significant distress. As a result, separations are now more accepted and their reasons better understood (Ainsworth *et al.*, 1978).

We can enrich this developmental approach with a more systemic perspective of the attachment. From this point of view, the attachment's emotional and behavioural organization also develops by stages - from indiscriminate relationships (*i. e.*, from several caregivers) to discriminated ones (*i. e.*, to the primary caregiver; Bowlby, 1969 / 1982; Sroufe, 1977; Ainsworth, 1969).

From birth to 3 months, the infant's physiological needs contribute to the establishment of regulatory patterns in the primary relationship. By experience and error, the caregiver learns to interpret and respond appropriately to the child's floating states and reflexive signs (*e.g.*, the crying). These initial physiological patterns serve as a prototype for a future psychological adjustment (Sroufe, 1995).

During the infant's second trimester, the caregiver increases the behavioural variety, complexity and affective exchanges with the child (*e.g.*, coordinating his facial expressions, vocalizations and presentation of objects with infant answers and signals) based on their earlier experiences. These patterns of interaction enable the child to remain organized in the face of increasing levels of physiological activation (Brazelton, Koslowski, & Main, 1974; Sander, 1975; Stern, 1974). The infant can start an activity and participate in these interactions orchestrated by the caregiver, but he cannot achieve or maintain that organization independently. Once developed, the repetition of such behaviour and emotional exchanges provides a foundation for interactions initiated by the infant, feature of the next phase of attachment organization (Sander, 1975; Sroufe, 1989).

Infant development facilitates the third level of dyadic organization: with the emergence of locomotion and grasping, the infant becomes more effective in the maintenance of proximity with the caregiver (Bowlby, 1969/1982). With increased intentional behaviour, the child assumes a more active role in the initiation, maintenance and extension of his behavioural patterns (*e.g.*, tries to follow the caregiver on departure, smiles and greets him if he returns; Bowlby, 1969/1982, Sroufe, 1989). We can thus say that, from a history of interaction coordinated by the caregiver, we then see the emergence of a specific attachment relationship, characterised by genuine reciprocity (Sroufe, 1989).

In the final months of the first year, the infant's behavioural organization reflects his active role in the dyadic system. The caregiver assumes the role of "safe haven" (Mahler, Pine, Bergman, 1975) and "secure base" (Ainsworth, 1973) on which the child focuses exploratory activities. The idiosyncrasy of each dyadic regulatory standard among different attachment relationships becomes apparent. These variations reflect differences in the caregiving history and in infant's expectations concerning caregivers. Under normal circumstances of responsive and sensitive care, the child, when scared or distressed, turns to the attachment figure. The caregiver, recognizing his expression of need and offers him comfort until he is reassured again. Through this kind of interaction (and the sharing of positive emotions), the child develops confidence in the caregiver's availability and in the effectiveness of his own initiatives. This mechanism characterizes a secure attachment relationship. Less-confidence relationships (anxious or insecure attachment) result from physical or emotional unavailability or inconsistent caregiving (Carlson, Sampson, & Sroufe, 2003).

In conclusion, we can conceive the development of human attachment as taking place around the caregiver system, expressing itself in the form of dyadic regulation patterns where the infant's degree of participation is progressively larger (Sroufe, 1990). However, his role does not reduce the weight of the attachment figure's significant contribution in the establishment of this dyadic mutuality (Soares, 1996). The model of a simple regulatory system is close to reality only when the caregiver is stationary or inactive. The relevance of these dyadic interactions for the attachment intergenerational transmission theme becomes therefore obvious. As we shall see, the caregiver behaviour (influenced by his own internal working models) influences the ways in which the infant's attachment behavioural repertoire is triggered for achieving his current set-goals (Ainsworth *et al.*, 1978), which are the source of individual differences in their

future attachment organization. The attachment working models, having origin in infancy, remain during adulthood, and will potentially adapt to the individual's relationship requirements throughout his entire life cycle, particularly in the context of romantic relationships.

### **1.3. Internal Working Models of Attachment**

When structuring his conceptual proposition, Bowlby exceeded each science domain of his time with the necessary assumptions for an innovation consisting of an integrative and testable theoretical network of social behaviour and individual personality. If the contributions of behavioural and ethologic sciences have been reflected in his thinking, particularly when framing the attachment system in a context of other behavioural systems, the socio-cognitive perspective is emphasized in his postulates that concern the level of coordination and high representation of these systems.

In a proposition that integrates the information process theory with the principles of behavioural systems, Bowlby considers the attachment system as organized and integrated into specific cognitive control systems – the mental representations (Bowlby, 1969/1982; Hinde, 1982; Cassidy & Shaver, 1999). Following Younes' idea (1964), imported from the writings of Craik (1943) – that there is a mental model determinant of human functioning – the author introduces the concept of "attachment working models". Bowlby intends to designate with this construct the knowledge and expectations built from the baby's repeated interactions with the caregiver, internally organized in the form of "generalized representations" of the self, of the attachment figures and of the relationships. These models allow the subject to not only make decisions on his attachment behaviour regarding a particular figure, but also to anticipate the future and make plans, leading him to operate in a more efficient way (Bowlby, 1969; Bowlby, 1980). They are integral components of the behavioural systems and play an active role in guiding the individual's behaviour (Bowlby, 1980).

From an ethological point of view, these models are formed from the human instinctive need to seek caregiver's proximity with protective aims (Bowlby, 1969). As we will see ahead, children whose attempts to obtain caregiver's proximity are consistently accepted develop different

relational working models from children that are consistently blocked or unpredictably accepted in their attempts. Some types of rudimentary working models, relationship specific, can be forged during the first month of life, but when the baby is one-year-old, those individual differences can be conceived as reflecting individual differences in the working model of a specific parent-child relationship. One relationship-working model can change even during the absence of the partner (Main *et al.*, 1985) because it does not depend exclusively on the presence of that person. Since the representations of events include attempts and outcomes, the working models include necessarily the product of an infant's efforts to access the caregiver during his absence. The working models are considered to form the underlying basis for individual differences on attachment organization because they take into account the individual's expectations about his own value before the attachment figure's eyes, availability and responsiveness.

Once formed, these working models have an existence beyond the conscience and a propensity for stability (Bowlby, 1980). In infancy and childhood, the working models can only be modified in response to changes in the child's concrete experience (Main *et al.*, 1985). Reached the stage of formal operations, it is possible that an earlier working model of a certain relationship is changed. This is because these operations allow the individual to think about thinking, that is, to "get out" of a certain relationship system and see it operating (Piaget, 1936) – meta-cognition. As a result, although the working models show a strong propensity for stability, they are not conceived as static – they are structured processes used to obtain or limit access to information (Main *et al.*, 1985). It is through the earlier working models of the self and of the others that the precedent attachments form a prototype for future attachments.

### **1.3.1. Development of Attachment Internal Working Models**

Waters, Crowell, Elliott, Corcoran, and Treboux (2002) point out that, despite the importance conferred by Bowlby to the axiom of working model, the definitions of this important construct tend to be more speculative than formal. There has also been few attempts to define and decide between alternative attachment representation architectures. Are these really models? Or are they, instead, temporal-causal scripts? Or even a simple list of expectations? What are the implications of their accessibility to consciousness or their impact on behaviour? We will try to answer these questions through a discussion about the development process of working

models, organized in two moments. Firstly, we shall explore the *script* theory as an understanding support for event representation processes (including attachment working models). Secondly, we shall discuss the impact of the interaction context in the formation of a unified working model derived from multiple attachment relationships.

According to Bretherthon (1985, 2005), the working models are mental representations that include affective and cognitive components and that originate generalized representations of attachment relevant events. They are internal models of relationships, which provide rules and systems of rules to guide the individual's behaviour and his assessment of experience. These rules are reflected in both thought organization and language (directly or indirectly attachment related). Many of them are unconscious, and they guide and organize attention and memory, allowing or restricting the individual's access to certain kinds of knowledge about the self and the attachment figure (Main *et al.*, 1985). In other words, the working models are designated as an abstraction of internal memory, knowledge, experience and affects, organized in a coherent whole, through which attachment relevant information is *filtered*, orienting, and influencing the subject's assessments and actions (West & Sheldon-Keller, 1994).

In this line of thought, the concept of working models requires a representational system that operates with structures of events (action/objects), rather than with static images, hierarchies of concepts or isolated logical operations. According to the script theory, representational processes are guided by these schemes of events, or *scripts*, that summarize the information of similar events repeated in one's life (Mandler, 1979; Nelson & Gruendel, 1981; Piaget, 1954; Schank & Abelson, 1977). The information derived from the "episodic" or autobiographical memory (including for affects) is re-processed, divided, cross-indexed and summarized in multiple ways. All different resulting schemes preserve a causal and space-time structure that stimulates the event structures of the real world. Some of these structures will link mini-event representations in coordinated sequences of long-events (the mentioned *scripts*, *i.e.*, "episodic memory"), others generalize them through mini-events (*i.e.*, "semantic memory"), while others even generalize them through event categories (*e.g.*, all routines of the caregiver). The hierarchies arising from here are built, rebuilt and continuously reviewed, based on the new input (Schank, 1982)<sup>10</sup>.

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<sup>10</sup> Explicit Memory includes semantic (factual) and episodic (autobiographical) memory and refers to a form of memory requiring conscious awareness for encoding and having the subjective sense of recollection (and, if autobiographical, of self and time).

It is believed that relevant scripts are activated or evoked when the subject experiences familiar events, helping him to predict what will happen next (Bretherton, 1990, 2005; Bretherton, Ridgeway, & Cassidy, 1990). Pre-existing schemes determine how the new experiences are decoded and processed, even if new event schemes are generated when an event, initially unexpected, is re-experienced several times. These analysing and organization processes explain how the events experienced with the attachment figure may influence more general and normative internal models of the caregiver's role, or how the autobiographical memories become embedded in a variety of general knowledge structures (Bretherton *et. al.*, 1990), with natural implications for the intergenerational transmission of attachment patterns.

Some authors have applied the concept of mental representation or internal working models to the study of family, marital or intergenerational relational patterns (Akister, 1998; Marvin & Stewart, 1990; Radojevic, 1994; Sroufe, & Fleeson, 1986; Stevenson-Hinde, 1990). At a representational level, Bing-Hall (1995) refers to "family scripts", Marvin and Stewart (1990) to "family shared working models" and Hill, Fonagy, Safier, & Sargent (2003) to "family shared frame", to designate the beliefs and behavioural rules shared by the family system, as an equivalent construct of the individual's internal working models<sup>11</sup>. Bing-Hall (1985, 1999) argues that the family experience can be conceptualized as involving complex dynamic processes in which the distance between its members is influenced by the attachment needs of each individual and by the global family systemic organization. The author proposes the concept of "family script" to represent the family's shared expectations relative to its rules in different contexts, including the ones for care provision and reception. These working models enhance each family member's ability to anticipate others' plans and actions – a fundamental function of attachment working models (Hill, Fonagy, Safier, & Sargent, 2003).

Hill and cols. (2003) consider, on the other hand, that the "family shared frame" determines the way each event, behaviour and expressed emotion is interpreted, as well as the effectiveness of actions undertaken by individuals. However, this frame does not belong to one participant; it is negotiated at present time and is typical of the family system that has originated it. According to the authors, the concept of attachment derives from the sharing of participants' past and

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<sup>11</sup> According to Bowlby, the internal working models, in a general sense, are representational processes that intend to explain the representational operations of behavioural systems, and are not exclusive of the attachment system.

future experiences, and the individuals' attachment patterns, are one outcome of this collectively shared state.

The propositions presented above are not dismissed of controversy: is it possible to theoretically conceive a "collectively-shared-mental-representation"? A common mental representation located in the interaction space, in a stratosphere that exists beyond the individual? Or is it the case that each individual has his own relationship working models that, although shared, are internal mental constructions of family reality, which always differ, into some extent, from the other family members' readings of the same reality? If not, how should we interpret the heterogeneity of readings of the same set of rules, beliefs, practices or interaction events, without considering the interlocutors' differences in meaning attributions at the representational level (Leconte, 1997)? One possible argument in favour of the first position would be to stress that these different attributions exist in family contexts where the communication processes are not working well (Hill *et al.*, 2003). However, even if this disparity is exponentially larger in these situations there is always, in our opinion, some degree of representational gap between the meaning attributions of the different family members. As we have already seen, according to the theory of script, the representational processes of cognitive nature are, by definition, intrinsic to the individual's mind and are influenced by all information already processed and stored by him. Once this cognitive processing runs in an autonomous way in the minds of each family member, the development of relationship working models cannot include a perfect sharing degree among all family members - it assumes a specific structure for each person.

Kozłowska & Hanney (2002), also consider that the use of terms such as "mental representation" or "internal working models", when referring to a family relationship pattern, is clearly misleading. The working models relate to the mental state of attachment strategies (Bowlby, 1969, 1973). The ability to "mentalyse" (Fonagy, 1989) is a task of neurological activity; it corresponds to the processing and storage of information from multiple sources, which results in action, that is, in the formation of a relationship pattern with the attachment figure. The observed behavioural patterns are accompanied by neurological processes that, though complex, are currently studied by means of recent neurophysiologic measures and brain imaging techniques (Glaser, 2000; Nelson & Bloom, 1989).

The "Network Model" of Capra (1997), an application of the general theory of systems to living systems, also contributes to another line of reasoning in favour of our position. When applying the principle of "organised complexity" to living systems, it is clear that each structure varies in complexity and is ruled by specific laws. In each level of complexity, the observed phenomenon displays properties that do not exist in a lower level (Capra, 1997). Thus, the individual or the dyadic, triadic or family relationship, represents a different structure of a system, distinct in its level of complexity and possessing laws and proprieties that are unique. Although being part of a broader whole, each of these structures forms an independent whole, thus showing specific properties or patterns that are absent in other levels of complexity. This implies that the constructs describing the phenomena of a particular complexity level differ from others used to describe another level's phenomena. In this reasoning, the concept of shared family rules or models of understanding can not be misunderstood: these models of family shared understanding do not process information nor do they organize a behavioural/emotional response regarding relationships in a way analogous to that of an individual's brain (Kozłowska & Hanney, 2002).

If there were a parallel to be considered, that would be with the attachment behavioural patterns observed in the Strange Situation or, eventually, with the attachment styles, identified in the social psychology literature, which lead us to the observation of behavioural patterns of interaction in the attachment domain. We should never consider a parallel with the attachment organization patterns extracted from an empirical methodology such as the AAI, which aims at assessing the mental representation of these behavioural systems. Only in that context could the conceptualization of a collective shared model, conceived in a relational space between individuals, gain some definition, in which case we are reasoning at an interaction behavioural level. Still, the characteristic of "organised complexity" in living systems raises some doubts about this position. Even in a systemic reasoning, since the constructs describing phenomena of a particular level of complexity differ from the ones observed in another level, any sort of extrapolation of laws between different subsystems should be made with caution. A construct which describes a dyad's interaction pattern (*i.e.*, attachment pattern) provides useful and unique information that contributes to a better understanding of the "whole" system, but cannot capture the global interaction pattern of the entire family (Kozłowska & Hanney, 2002).

A position that seeks to distinguish the nature of individual's representational models from other family interaction processes does not, however, exclude the complementary role of these two

contexts. Moreover, this is the basis for a reflection on the role played by the interaction mechanisms regarding the formation of a unified internal model, developed from multiple attachment relationships. Otherwise, how can we conceptualize an attachment-working model of a child who has a secure relationship with one of his parents and an insecure working model with the other?

Although Bowlby (1973), in his theory for self discordant working models, has proposed that one of these models will be selectively excluded and the other will remain accessible to consciousness, empirical studies on this matter do not point us towards conclusive directions. Some researches have shown a lower quality of attachment when the relationship with both parents is insecure and an intermediate quality when the attachment is secure with one parent and insecure with the other (Main & Weston, 1981). Others suggest that attachment to the mother occupies a superior hierarchic position and, as such, of greater prominence, than that to the father (Main *et al.*, 1985; van Ijzendoorn, 1995). Studies of clinical cases suggest that individuals with incongruent patterns can switch between the self-working models derived from the relationship with the mother to the ones with the father, leading to an inconsistent behaviour that can be incomprehensible to the interaction partner (Gustafson, 1986; Main *et al.*, 1985). Then how can we conceptually explain this discrepancy of results? Several authors have put forward different explanation propositions, without agreeing however to a definite position regarding this difficult topic.

Bretherton (1985) suggests the existence of a hierarchical organization of the child's various attachment models according to which the most salient caregiver's representation will be the most influential. This primary attachment relationship influences all other subsequent attachment relationships. Recent knowledge about interpersonal relationship neurobiology (Siegel, 1999) supports this concept when defending that a lower cognitive organization level forms part of a superior, more complex, one. For example, the basic attachment behaviours are seen as the constituting elements of the one-year-old's strategies or of the conditional behavioural strategies that can be potentially activated, depending on the caregivers' awareness and availability, that is to say, under cognitive control. Another model, still with a hierarchical nature, suggests that different levels of organization can be designated as different systems more or less coordinated after childhood, functionally autonomous and primarily independent among each other. What system is activated and in what situation? Considering a hierarchical organization, the system of higher order is the preferred one in stressful situations.

The others will be required in stressful situations when the higher-level systems have failed their integrative function (Thomson, 1999).

A third scenario assumes that the different models can be activated and that they can guide the behaviour according to several elements: the current context characteristics, the people concerned, the quality of emotional context, the familiarity of the situation, or even the amount of stress (Main, 1999). To give an example, the adult who has developed secure representations, despite a history of insecurity-avoidance (*i.e.*, earned-secure), can evidence a coherent organization of his narrative regarding his attachment history. His representations allow him to acquire security in current relations, even in critical episodes with partners, but in stressful situations, or when in interaction with specific figures, avoidant behaviour will prevail.

Spangler and Grossmann (1999) propose an integrative model that explores consecutive developmental periods and their correspondent cognitive skills. This independent organization model argues that different developmental domains influence the representations of different attachment relationships. For example, the father-child attachment quality can influence the infant's negative affect and interpersonal tension in the conflict, while the mother-child attachment quality normally influences his competencies (Suess, Grossmann, & Sroufe, 1992; Steele & Steele, 2005).

The data discrepancy and submitted conceptions bring us to a broader level of review, where the presence of different situational/relational selves in the self's integrative structure, formed from different attachment relationships, should be discussed. Bowlby's perspective (1969/1982) that defends that both the internal working models of the self and the attachment figures grow in interpersonal transactions, is close to other socio-cognitive theories that emphasize the children's active role in processing the received information.

The mental life of each family member (*i.e.*, their desires, emotions and thoughts) remains "opaque" (Fonagy, Steele, Steele, Higgitt, & Target, 1994), that is to say, it is not observed or experienced directly, remaining rather individual and concealed. Nevertheless, this does not mean that the *disclosed* and *individual* domains are competitive demands on family life. On the contrary, the two are complementary operations of the same process: the social interaction mechanisms contribute to an understanding of the mental state of the other as a determinant of

behaviour, but also to the development of an epistemic and emotional coherence, that defines the person's identity.

According to Mead (1934), the ability to see the self as an object requires the individual to take the perspective of the "other"; to be able to build a model of the self as seen by the partner (*i.e.*, meta-representation). According to the author, there are two mechanisms inherently associated to the development of this ability: first, the child learns to assume the role of different "others"; later, he learns how to participate in games with rules that require a group attitude. In assuming the group attitude, the individual incorporates the rules of society and integrates the multiple selves, originated from different dyadic relationships, in a unified whole of the self. An understanding of the "others'" mental state is based on an extrapolation process of our own understanding that, in turn, emerges from our sense of being understood (Hill *et al.*, 2003).

We are therefore in the presence of a dialectics between the need for recognition of a contextually independent self and the processing of the self's social definition. The latter restricts the extent to which the self can be experienced as a separate entity of that context (Fonagy & Target, 1997). The result of this process is an understanding of the self and others in a system of relationships. Consequently, the individuals, throughout their development, are able to build "normative models", such as the role of a parent and a child in the family (Bing-Hall, 1985; Gustafson, 1986; Main *et al.*, 1985; Bretherton, 1990, 2005). In this line of reasoning and, in our opinion, the different attachment models cannot be postulated as detached, but rather as part of an interconnected hierarchy (Bowlby, 1969; Simpson & Rholes, 2002), in which the attachment models of the higher levels provide feedback to the working models (of self and others) in the individual's specific relationships (Bretherton, 1990).

### **1.3.2. Defensive processes and individual differences on Attachment Organisation**

A central assertion of process information theories is that humans *selectively exclude* information, according to the relevance that it has for their current task, in order to manage limited processing resources. Bowlby (1980) argues that, although with different aims, the *defensive exclusion* can be based on a similar process: the relieving of the conscience of perceptions, feelings and thoughts that could potentially generate anxiety and psychological

distress, both of which are considered as unbearable for the individual. Despite this self-protective function, adaptive in the short-term, the author warns that, in the long-term, the defensive exclusion processes will likely interfere with the working models' updating mechanisms that are essential for a healthy attachment. If this process prevents the seizing and integration of relevant information in the working models, the system cannot be adequately alert, leading to the deregulation or deactivation of attachment behaviours, feelings and thoughts (*i.e.*, exaggeration or mitigation; Bretherthon & Munholland, 1999; Bretherthon, 2005).

In discussing defensive processes, Bowlby (1980) uses the distinction between episodic and semantic memory<sup>12</sup>, proposed by Tulving (1972, 1993). The author argues that these two memory systems are based on different storage mechanisms: while the autobiographical memories can only be derived from current experience, generic knowledge can also have origin in information provided by a third person. When the two stored information sources are highly contradictory, it is probable that a severe intra-psychoic conflict will emerge. In these circumstances, as a way to eliminate this conflict, the defensive processes can be used to deviate the previously stored episodic memories from the conscience. However, according to the theory of *scripts* (Schank, 1982), if some portions of autobiographical memories come into cross-indexed schemes at different hierarchical levels, we can understand how the material defensively excluded from autobiographical memory may continue to have an impact on schemes at other levels, persisting to influence the individual's thoughts and behaviour (Bretherthon, Ridgeway, & Cassidy, 1990).

According to Bowlby (1980), clinical evidence supports the thesis that defensive processes can interfere with the adequate development of the self and the caregiver's working models. Under circumstances of intolerable mental pain or intra-psychoic conflict, it is common for a child to defensively exclude from consciousness the working model of the 'bad' parent that doesn't love him and to retain only the conscious access to the love model (*i.e.*, the 'good parent'), obtaining in this way, a psychological relief. Since this model of unconditional love does not correspond to reality, a model of an idealized parent is therefore non-adaptive. Leading to an adjustment of the working models to the problematic reality, these inappropriate working models interfere with an effective performance and an optimal development (Bretherthon *et al.*, 1990; Bretherthon,

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<sup>12</sup> According to Tulving (1993), the « episodic memory » stores memories of specific events of the person's history. The "semantic memory" stores generic propositions. The first one concerns the storage of specific memories and the second one of general knowledge.

2005). Bowlby attributes this gap in the working models to contradictions between what the parents say and the child's experiences<sup>13</sup>, but Bretherthon (1995) argues that this is not necessary: the disapproval or discouragement, by the caregiver, of the child's communicative signals, leads to the specific elimination of a reciprocal and mutually validating communication<sup>14</sup>.

The processes of defensive exclusion may occur in one of two ways: the perceptive exclusion and the pre-conscious exclusion. The first one is the cause of the attachment system's deactivation. The second leads to an interruption of the information processing in a precedent level of consciousness and, therefore, to the cognitive disconnection of a response (*e.g.*, behavioural) to an interpersonal situation that elicits it (Bowlby, 1980). As we shall see, these two types of exclusion are the differentiation basis to less adaptive attachment patterns.

The defensive exclusion process can be easily transposed to the pattern that Bowlby called of "compulsive self-sufficiency", concerning the attachment system's deactivation, which excludes any sign of activation from processing (Rosenstein & Horowitz, 1993). Cassidy and Kobak (1987) developed this concept, analysing its consequences for affect regulation and working models. The authors suggest that the masking of negative affects has the same function as the avoidance of attachment behaviours: by avoiding stimuli that caused rejection and distance in the past, the subject maintains the caregiver's proximity. Nevertheless, in time, the need to hide negative affects is generalized to a defensive restriction on emotional expression. At the behavioural level, the individual's interaction partners' interpretation of him not being affected by their conduct decreases the likelihood that they will try to engage in emotional or affective

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<sup>13</sup> For example, the Double-bind impasse was identified by social psychological researchers as being associated to the schizophrenia's etiology. It describes a particular type of family communication that is substantially present far before the disease emergence. The ingredients of the double-bind impasse involve: 1) two persons in **interaction**; 2) usually, a **repeated** experience; 3) first, a negative primary **injunction** (order) is present (*e.g.*, you **should not** do this, you **should** be autonomous); 4) a secondary injunction, which is in conflict with the previous injunction, follows (*e.g.*, you **should not** do this, even if it makes me suffer); 5) a third negative injunction blocks the relationship, obstructing the victim to get out of the situation (*e.g.* I **should do** and I **should not do**: I will live my life, but she suffers / I will not live my life, I suffer); 6) after the relationship is established it is sufficient that just one of this ingredients is present to activate this interaction sequence (Benoit, 1997).

<sup>14</sup> For example, according to Hills and cols. (2003), when fear cannot be exteriorized in a shared family frame, it has to be managed within the child's mind in a potentially non-adaptive way. There is a variable group of possible processes that allow this to occur, fear can: be totally avoided or denied; become a permanent centre of concern; be reinterpreted as evil; or may become completely disconnected from the self's experience. In any case, it cannot be discussed with confidence.

interactions with him<sup>15</sup>. The individual's working models that other people form about him, serve to confirm his relational expectations and, consequentially, to sustain his necessity to avoid the activation of the attachment system (West & Sheldon-Keller, 1994). Moreover, the subject's working models include a bias on processing information that serves as a control or a denial of the affective suffering (*e.g.*, through idealization processes, semantic memory, rather than episodic memory, is privileged<sup>16</sup>). The cognitive consequence of this restriction on affective expression is that it maintains this pattern of defensively excluded information that would activate the attachment system, establishing and perpetuating a compulsive self-sufficiency pattern (Cassidy & Kobak, 1987).

But how can the attachment system be deactivated? A more traditional perspective conceives the deactivation of attachment system as a permanent "turned off" state (Bowlby, 1980). Under normal circumstances, the system would operate intermittently according to signs of activation. However, Bretherthon (1985) suggests that to perform its task of ensuring security, the attachment system cannot be merely intermittently activated; it must be always active, monitoring the caregiver and the familiarity of the environment. Thus, the attachment behaviour may be intermittently activated, but the attachment system has to be continually active, monitoring the environment.

Regarding the compulsive self-sufficiency pattern, the attachment system is, in Bowlby's opinion, deactivated. Other authors (Main, 1981; Cassidy & Kobak, 1987; Bretherthon, 1985) hypothesize that the system remains active at two levels: in monitoring the environment and in orienting goal-achievement. If the attachment system is completely deactivated, all attachment relevant information is, by definition, excluded from cognitive processing and cannot influence behaviour, which is contrary to the theory of script (Schank, 1982). If the attachment system

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<sup>15</sup> It has been considered that insecure attachment organizations are a risk factor for the development of psychological disorders. Negative expectations of the self and of social relationships, as well as distorted patterns of process information, which characterize insecure organizations and are reflected in an incoherent narrative about attachment experiences, may difficult a flexible and non-defensive involvement in social interactions, reducing opportunities for positive social experiences and increasing the individuals' vulnerability towards adverse situations (Hills *et al.*, 2003).

<sup>16</sup> The characteristics of avoidant subjects appeared to be consistent with the employment of deactivation strategies of the attachment system, through the exclusion of information related to attachment experiences and a limited access to their memories and feelings. According to Dozier and Kobak (1992), individuals that use deactivating strategies do experience conflict or inhibition during AAI. The rules consistent with this strategy restrict the knowledge and awareness of the negative affect, limit the recall of disturbing memories related to attachment and lead to a vague or general description of the parents.

remains active and vigilant, the information is processed, influencing behaviour and affects, although according to a working model that tries to mitigate the expression of any affective or attachment behaviour (West & Sheldon-Keller, 1988). The attachment relevant information is not excluded but is, instead, associated to another attachment behaviour, characterized by the absence of any externally identifiable attachment behaviour (Main, 1981).

The defensive exclusion of the stimuli at a perceptual level was not the only way for defensive exclusion hypothesised by Bowlby (1980). Activation can be possible, but the correct interpretation of the meaning of the activation may be impeded (Rosenstein & Horowitz, 1993). In this case, it is not the attachment relevant information that is excluded, but its correct interpretation for attachment behaviour activation. To be more specific, the child who learns that attachment behaviours cause distress for the attachment figure (rather than the caregiver's anger and rejection experienced by the child developing a compulsive self-sufficiency pattern) develops a pattern of "compulsive caregiver", which distracts him from his personal attachment needs (Bretherthon & Munholland, 1999). The attachment information is diverted into alternative neighbour circuits, without freely circulating in appropriate ways for cognitive processing. The alternative circuit is the exclusion, and its deviation (to provide care) prevents an unbearable pressure in that circuit (i.e., the child's real needs that cannot be met) (West & Sheldon-Keller, 1994).

However, what may be the reason for this deviation towards *caregiving* in particular? As we saw above, the caregiving system is complementary to the child's attachment system. This system is inactive in childhood, although an intermittent early activation can be observed in the protective behaviour that the older siblings demonstrate towards the younger. If the activation of attachment behaviours causes distress for the attachment figure, this distress, in turn, can activate the child's caregiving system. In parallel to the compulsive self-sufficiency pattern, the expression of the child's caregiving behaviours may lead to a reduction of the attachment figure's distress and hence to an increase in his tolerance to the child's proximity needs (West & Sheldon-Keller, 1994; Mikulincer, Shaver, & Pereg, 2003). Because the attachment goal will be more easily achieved through caregiving behaviour, now associated with the attachment system activation, it leads to a caregiving compulsive pattern (West & Sheldon-Keller, 1994).

Finally, another possibility of cause-effect disconnection proposed by Bowlby (1980) is at the origin of an anxious attachment. The individual may deal so strongly with the details of his own reactions and sufferings that he is not willing to consider what may be the real interpersonal situation responsible for these reactions. From an emotional point of view, he tends to enlarge the emotions, to show negative beliefs about the self and to experience anxiety and confusion when reflecting on the nature of attachment difficulties (Kobak & Shaver, 1987). The hyper vigilance regarding the attachment figure's availability is another feature which seems to generate a higher dependency and vulnerability to others (Kobak & Sceery, 1988). Experiences of loss or separation tend to be lived with high emotional intensity, emerging anger and/or self-recrimination for long periods, making the process of re-elaboration of these experiences more difficult.

In all these cases, the normal operation of the attachment system is, in some way, excluded. To differentiate these patterns, we should be aware of what is being replaced to maximize the individual's likelihood to achieve the attachment's system goals.

West and Sheldon-Keller (1994) criticize the way Bowlby, like Freud, located defensive processes in the subjects' intra-psychic 'machinery'. For these authors, Bowlby's formulation of defensive processes is openly mechanistic and old fashioned: it offers a computerized version of attachment that fails to adequately respond to the most current neurological research and knowledge of the specificities of information processing characterizing the human brain (see Rosenfield, 1992).

If for Bowlby (1977) affection is, in first instance, a consequence and an indicator of the attachment style, for West and Sheldon-Keller (1994) emotional responses also play a significant role in determining the attachment organization<sup>17</sup>. According to these authors, if the formation of an intimate relationship between two individuals is possible through affective freedom (in the sense of an open and honest expression of feelings), the "emotional restriction" is a significant form of defence, since it creates relational distance, presenting itself as a distinguishing sign of an insecure attachment. Interpersonally, it becomes an obstacle for genuine relationships for two reasons: a) insecurely attached individuals express their feelings regarding their attachment figure in very limited ways; b) the affective expression is likely to be

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<sup>17</sup> In the next section, we will develop these authors' position concerning the study of stability and change of attachment working models.

so poorly modulated that another persons' feelings, or points of view, are completely lost or, at least, not shared (West & Sheldon-Keller, 1988).

These formulations may be instructive as to the nature of insecure attachment patterns, but they lack the specificity of certain types of defences, whether in a psychoanalytic or in an attachment model. However, these authors' proposal sustains that a lack of specificity is not a disability to be overcome, but an intrinsic quality of attachment patterns – as well as of other psychological structures. Isolation of a particular defensive process is misleading and of limited clinical relevance. The implication is that if the defensive procedures were to be corrected, then the problem would be solved, the dysfunction cured. For the authors, the simplicity of this approach, while appealing, is manifestly insufficient to meet the clinical reality. It cannot correspond to clinical reality because human cognition, affects and behaviours do not include discrete and autonomous entities (West & Sheldon-Keller, 1994).

In fact, Bowlby clearly recognizes that affect is an important organizer of secure base relationships, emphasizing the role of cognitive activity in the regulation of attachment affective states. However, his analysis of secure relationships does not include a detailed theory of emotional regulation. Moreover, there is little research associating attachment security and affect regulation or defensive processes (Waters, Crowell, Elliott, Corcoran, & Treboux, 2002). In an attempt to characterize the strategies of affect regulation associated to the attachment system functioning, Shaver and Mikulincer (2002) developed the "Model of Activation and Dynamics of Attachment System," with the intent of integrating recent empirical data with the original proposals of Bowlby (1969/1982, 1973), Ainsworth (1991), Cassidy and Kobak (1987) and Fraley, Garner, and Shaver (2000).

The model includes three main components: a) the monitoring and evaluation of threatening events, responsible for primary strategies' activation, e.g. proximity seeking; b) the monitoring and evaluation of the attachment figure's availability (external or internalised), responsible for individual differences in attachment security and for the development of secure base strategies; c) the monitoring and evaluation of the *viability* of proximity seeking as a way to deal with attachment insecurity, which is related to individual differences in the development of secondary attachment strategies: deactivation *versus* hyper activation. In general, the model postulates the use of strategies derived from secondary routes that are inhibitory or excitatory

of the attachment system and which, in turn, affect the monitoring of threatening events and the attachment figures' availability (see Shaver & Mikulincer, 2002, 2004).

In particular, the availability of the attachment figure activates a sequence of two strategies of secure-base developmental stages, referred to as "co-regulation" and "self-regulation", to which the psychological mechanisms that enable the transition from one stage to another are added. The first stage refers to the individuals' ability, with the collaboration of available attachment figures, to expand and enrich his primary attachment strategies and improve his affection regulation. The second concerns the establishment of the self as a principal executive agent of the secure base strategies. This transition is facilitated by three mechanisms: the person's abilities and expansion of perspectives, the expansion of the self, and the internalisation of other functions that were originally performed by the attachment figures (Mikulincer, Shaver, & Pereg, 2003).

Secondary attachment strategies are influenced by external and internal factors. The adoption of "deactivation" strategies is related to a pattern of interaction, which relates proximity seeking to negative affect, generating a mental representation of unavailability as a not rewarding/punitive condition. This mental state must also be affected by internal factors that intensify the emotional reactions to parental unavailability, such as high impulsivity and intolerance to frustration. The adoption of "hyper activation" strategies is followed by an attachment interaction pattern that prevents the subjects' development of self-regulation, reinforcing his sense of impotence. This kind of interaction creates a state of ambivalence, according to which the proximity to the attachment figure is painful but its avoidance is even more threatening. In this case, an inconsistent reinforcement of attachment behaviour leaves some room for co-regulation, enhancing the adoption of hyper activating strategies. This mental state can be further exacerbated by internal factors, such as temperamental deficits in self-regulation and consequent problems in the control of attention, memory and behaviour (Mikulincer & Shaver, 2004).

In conclusion, the attachment system has a biological base, developed from a relational matrix that will influence and organize the motivational, emotional and memory processes, regarding significant attachment figures, others and the world (Bowlby, 1969). The development of a healthy attachment relationship is based on a continuous updating and adaptation of these models. For Bowlby, it is only when the defensive information processes subvert the, usually adaptive, function of the selective information processing, that the development diverges into non-optimal patterns. Other authors criticize this isolationist vision, claiming a link between affect regulation and defensive processes (Mikulincer & Shaver, 2004; Shaver & Mikulincer, 2002; Waters *et al.*, 2002; West & Sheldon-Keller, 1988, 1994). In what follows, we will proceed to discuss the updating ability of attachment working models. This reflection will allow us to ponder on the reorganization need as a way to overcome eventual deviant attachment formats, products of crystallization of the representational processes.

### **1.3.3. Stability and Change of Attachment Internal Working Models.**

The theories of event representation are useful tools when reflecting on representational stability and change: once a scheme is formed, it guides the processing of the received information. The stability and efficiency that result from event processing are, however, obtained at the price of a hyper simplification. People will be compelled to adapt working models to a new reality, only when the lack of match between the first and the latter becomes very patent. Some distortion of the new information, at the service of adaptive simplification, is therefore normal and inevitable (Bretherthon, Ridgeway, & Cassidy, 1990).

The attachment theory postulates some restrictions on the working models updating; however, they must adapt to the extent that the attachment relationship develops. A more competent child needs the support of the caregiver in a distinct manner to that of a baby. If such changes are not reflected in the child's and the parent's revision of their working models, these will become seriously outdated and therefore inadequate. External factors introduced in the relationship (*e.g.*, chronic illness, parental unemployment, etc.) are also prone to make the necessary restructuring of these models. Finally, it is assumed that cognitive development also leads to changes in the complexity and degree of elaboration and, therefore, in the working model's adequacy (*idem*).

Hill and cols. (2003) contrast two distinct contexts of human behavioural expression: while some circumstances require "action oriented goals," other conditions require a "reflection" activity. The individual's actions and those of the others, together with their individual subjective reactions, can be the subject of reflection. In highly emotional and challenging conditions, the subject has only his usual interaction and attribution customs, as well as his typical problem-solving repertoire of beliefs and strategies. In periods of low challenge, these procedures can be reconsidered. In families, there is a tendency to interchange these stages. Experiences involving the attachment system occur primarily in phases oriented at the family interaction goal. These processes may be referred to as "processes of emotion/action"<sup>18</sup>. It is essential that the solution include, among family members, a shared consciousness of each other's emotional state and an understanding of the related causes, in order to give rise to behavioural change and an appropriate action to resolve interpersonal distress.

In the attachment domain, these actions alternate with exploratory stages of representational level. When there is emotional intensification or a demand for something to be done, families have the opportunity to discover new aspects of the external world of each member, as well as similarities and differences between their experiences in that world. The interpretations, attributions or actions normally used can be reviewed in a reflexive and exploratory activity. These meta-cognition processes are associated with second-order changes<sup>19</sup> in the family system and are enabled by an intimacy context, where an intentional meta-communication between the family members is possible (Perlmutter & Hatfield, 1980). Besides the communication quality, the adequate use of the emotion/action *versus* exploration/reflection processes is another important marker for an efficient family functioning (Hill *et al.*, 2003).

Despite the fact that event schemes, at all levels of abstraction, are open to review, the extent of this possibility of revision is limited, since the old schemes guide the processing of new information. This resistance to change is built through processes of assimilation (see piagetian

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<sup>18</sup> This term suggests the co-existence of an emotional reaction and of a respective adequate action.

<sup>19</sup> According to the systemic paradigm, the "type I changes" refer to small changes between members within the system (i.e., according to the systemic paradigm, the "type I changes" refers to small changes between members within the system; *morphoestase*: stability of the form). "Type II changes" imply a change in the relation between the element and the class, and are characteristic of a change in the system, which leads to a discontinuity, to a transformation (i.e., *morphogenesis*: origin of the form).

theory), where the previous codification (*i.e.*, memory) influences the way the next similar experience is decoded (*i.e.*, processed). When the communication lines of the individual's representational system suffer interference, a biased or incomplete process is inevitable, for the existing schemes guide the new experience processing (Bretherton, 1990). Unexpected events, if detected, are recorded as exceptions. Occasional lapses of the attachment figure's sensitivity are not likely to affect adversely the child's confidence in the caregiver's emotional availability. The risk is associated with the tendency that this kind of occasional and controlled behaviour has to become less conscious, so that it can come to act automatically.

As mentioned before, the automatic processing is more efficient because it requires less attention, however, it implies some loss of flexibility. The fact that working models and expectations of two individuals are involved in their interactions also enhances some stability. When the interactive behaviour of a partner is changed, the expectations of the other are violated. As a response, the former might, at least initially, resist or misinterpret such unexpected interactive conduct, whether it is positive or negative. These stabilizing processes, explained in the systemic science by the systems' homeostatic principle<sup>20</sup>, may fail, however, to operate when the subject becomes aware that the old model is no longer functional (Bretherton & Munholland, 1999).

West and Sheldon-Keller (1994) questioned the extent to which the past attachment experiences are temporal and discrete constants in our mental world. According to Edelman (2005), the brain does not store memories, but rather establishes a potential to rediscover prior categories in current situations. The re-categorical memory is thus dynamic, transformational, associative and distributive – its processes are representative of categorizations, but they are not necessarily representations. One implication of this position is that there is not a stored model to be recalled, a model that guides behaviour and feelings towards new experiences and situations. The mental models are constantly recreated as a synthesis combining old categories and new experiences. These synthesized models are a current feature and, as such, are not stored in the memory. Their effects are incorporated as a potential to influence

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<sup>20</sup> In order to maintain its basic characteristics, the systems have homeostatic attributes that maintain the stability of their interaction patterns. The basic unit of this auto-regulation is the negative feedback loop, through which the system acts to reduce the effects of deviation from those basic patterns. According to Minuchin (1985), when this principle operates at a family level, the auto-regulator mechanism resides in the family and not at an individual level.

models, which are renewed in future experiences. The emotional dimension of attachment is reinforced when current behaviours or feelings stimulate the perception of continuity and similarity with the past attachment experiences.

In a traditional perspective of internal working models, early attachment experiences create an internalized model, containing expectations about behaviour and affection regarding attachment relationships. This internalized model has historical continuity and is used by the individual to guide behaviour and engagement in new attachment relevant situations. The model supplies the individual with rules or procedures for responding to attachment stimuli; its affective content is a product of these rules. In West and Sheldon-Keller's (1994) opinion, a stable model is not ready enough for the adaptability demands of a normal development. In that perspective, we necessarily have to use a theory such as the assimilation vs. accommodation one (Piaget, 1954) to incorporate the adaptation and transformational characteristics of internal models.

In the new vision of internal working models proposed by these authors, there is not a discrete model established in the memory, but a potential to reclassify or re-categorize past experiences in the light of current ones. The perception of attachment behaviours and affects precedes the rediscovery or recreation of the affective category derived from the attachment experiences. The affects are not merely part of the working models' contents; they are a mechanism for reactivating in the present the category established in the past. Since this continuity is not situational (*i.e.*, related to specific situations or relationships) but motoric (*i.e.*, related to specific actions and feelings), the extension to peer relationships is not a problem in this formulation. Adaptability is the normative state, as past and present experiences are combined in a renewed category.

In this sense, internal working models designate dynamic categories, associative and affective, which have the potential to be re-discovered and revised in new situations. The normative experience of adaptability therefore accompanies easily this way of conceiving working models, being the pathological experience – of inadaptability or rigidity – the one that needs to be taken into account. The insecure subjects are unable to see the self as worthy or the other as welcome, becoming particularly vulnerable to an increase of disruptive emotional intensity. When these strong feelings are projected in current relationships, they are likely to evoke correspondent feelings in other subjects, which in turn create a representational identity

between past and present attachment experiences. In this self-perpetuating way, increased disappointment and frustration arise. These attachment experiences are then re-internalized and come to consolidate limited attachment patterns. In this line of thought, rigidity reports us to the essence of the insecure attachment patterns (Bowlby, 1977; Main *et al.*, 1985; West & Sheldon-Keller, 1988).

Crittenden (1997, 1999) advocates another position, contrary to an emphasis on the stability of the attachment working models, in her "Maturational dynamic model of attachment." This model is structured around two processes that transform external sensory stimuli in information relevant to the subject (used to identify and protect him from external dangers): the cognitive and the affective transformations. The first one refers to the cognitive recognition of temporal event sequences. Although the nature of these temporal associations is fallible, behaviour can be organized around them. In consistent environments, the cognitive information is a useful forecaster of predictable events, but is rather useless in unpredictable environments. The "affective transformations" of information relate to the feelings of anxiety and comfort, evoked by certain stimuli, which occur without a contextual learning or a prior experience. Depending on what increases the likelihood of security and access to the attachment figure, the affect can be adequately explained, inhibited, falsified or omitted from the representational processing. Each of the attachment strategies reflects a particular style of cognitive processing and affective information. The "A" strategy is based on cognitive information and omits, inhibits, distorts or falsifies affect. The "C" strategy is an "emotional" strategy based on the exaggeration of emotional exposure and on the omission of affective information. The "B" strategy refers to a balanced use of both sources of information (Crittenden, 1999).

According to the author, the interaction between maturity and experience results in changes in the individual's attachment strategies and internal working models throughout the life cycle (Crittenden, 2000). Theoretically, only a proposition like the above one is compatible with a systemic reasoning and with the characteristics of living systems (Capra, 1997), particularly with the notions of feedback<sup>21</sup> (cybernetics<sup>22</sup>), self-organization<sup>23</sup>, and dissipative structures<sup>24</sup>.

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<sup>21</sup> "Feedback" is the process by which, in a causal chain, an element acts on an earlier stage of the change process, modifying its path or structure. The negative feedback relates to the mechanisms that allow the system to autocorrect itself in order to maintain its stability. The positive feedback brings us to mechanisms that allow the system to disorganize itself and promote change (Bertalanffy, 1972). The "cycles of feedback" refer to the changes that may occur from circular patterns of information, resulting from interconnections between living systems.

Specifically, living forms exist in a stable way and in a particular balance. These states may remain stable for long periods, regardless of the negative feedback exterior to the system. However, the living systems are self-organized, that is, they tend to organize themselves in a progressively more complex way. In a phase previous to change, the dissipative structures become increasingly unstable (abandoning their balance) until they reach a point of instability (*i.e.*, chaos or disorganization), from which they reorganise themselves in order to get a new and more complex form of organization. These phenomena have relevance for the growth of neurological networks, for biological development and for the evolution of attachment systems. Since the systemic theory predicts that attachment strategies must adapt to reach new ways of representational complexity (*i.e.*, becoming more diversified and complex throughout the life cycle), this neurological and interactive development between the person and the relational context is a natural consequence of the subject's ability to update his working models (Kozłowska & Hanney, 2002).

In conclusion, although it has been empirically demonstrated that the quality of parent-child early attachment can have a meaningful and substantial tendency to remain stable over time (Hamilton, 2000; Waters *et al.*, 2000), as Bowlby (1973) has predicted, the change is not only possible, it is strongly associated with the presence of positive and negative life events (Thompson, 1999, 2000; Weinfield, Sroufe, Egeland, & Carlson, 1999). Of particular interest to the study of this topic are the developmental processes of "earned-security", through which some individuals go beyond their negative family stories, interrupting a more unfavourable individual route (Pearson, 1994). After adolescence, when formal thinking is possible (Piaget, 1936), the possibility of operating meta-cognitive mechanisms enables the individuals to reflect on their past attachment experiences. This recent cognitive ability, in the context of new

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<sup>22</sup> The "cybernetics" is the science that studies the mechanisms of information control and of regulation and communication in the systems.

<sup>23</sup> The "self-organization" refers to the system ability to promote changes in its structure, spontaneously or by modification of the external environment conditions, with the aim of maintaining the stability of its organization (Bertalanffy, 1972). The outcome of this process is the spontaneous emergence of ordered patterns in living systems. This requires an input of energy that leads to the creation of new structures and new ways of behaviour in this process of self-organization (Capra, 1997), through type II changes.

<sup>24</sup> The mathematical concept of "dissipative structures" refers to the way in which the living systems combine structure stability with fluidity and change, including points of instability where new structures and organization forms may emerge (*idem*).

emotionally significant relational opportunities, enhances the individual's working models reformulation, eventually leading to an earned-secure attachment organization. In the next argument we shall reflect on the role of romantic relationships, given their importance for the reformulation of the individual's attachment working models and hence for the interruption of intergenerational cycles of disadvantage.

#### **1.4. Reciprocal Attachment in Adult Romantic Relationships**

An attachment relationship is a dialectic dialogue in which certain elements, such as the models of the self and of the "others" and the emotional regulation, are defined in a reciprocally determining way by the *between* elements. These elements act as interaction steps with those on whom we depend. The essence of systemic theory is to look at a whole system and to see how elements in a system organize and maintain each other (Jonhson & Best, 2003). Bowlby (1973) spoke of the relationship between an individual and his environment (including the "others") as the external circle of a system, complementary to the internal circle that maintains homeostasis within a person. The couple system involves two mutually regulatory partners, each serving as the "other's" environment and having an active role in shaping couple interactions (Feeney, 2003).

Attachment theory has been proposed as a "structure" that studies the processes of support seeking and caregiving in adult intimate relationships, emphasizing the concept of "secure base" in close relationships over the life cycle (Collins & Feeney, 2000). In adulthood, the most important elements in the social support systems are the affective relationships, particularly those giving the individual a "sense of security" (West & Sheldon-Keller, 1992). The adult attachment system is activated by elements such as security, protection or help; elements that operate between a subject in a vulnerable position and another, stronger and wiser, in a helping position.

To define adult attachment relationships we need to use criteria congruent with the infant and child attachment definition, and sufficiently different from other adult relationship definitions. The parallelism between certain adult-to-adult relationships and the ones of infant-caregiver is clear: they are social systems in which the partners trust in the availability of the other and in

their sensible responsiveness, and organize the exploratory system, as well as a large rank of cognitive and emotional activities, in different social contexts throughout lifetime (Crowell *et al.*, 2002). Specifically, the primary function of attachment in adulthood is to provide protection from danger by the maintenance of a dyadic relationship (Bowlby, 1969; Hinde, 1982).

The adults establish several affective relationships throughout their life cycles, which may or may not become attachment relationships. West, Sheldon, and Reiffer (1987) identify five criteria, that distinguish adult attachment relationships from other social relationships: 1) *proximity seeking of the attachment figure* (i.e., in a stressful situation individuals search proximity with the attachment figure); 2) *secure base effect* (i.e.; proximity to attachment figure increases the sense of well-being and decreases anxiety); 3) *separation protest* (i.e., separation from attachment figure, or threat of separation, evokes unpleasant feelings and anxiety); 4) *anticipation of relationship permanency* (i.e., security is only accomplished in a relationship which assures it at a present and future times); and 5) *reciprocity* (i.e., the individual who needs an attachment figure, is able, simultaneously, to operate as attachment figure to his partner). The first three characteristics are similar for infants and adults, but the two latter distinguished them. In particular, the notion of *reciprocity* contrasts with the notion of *complementarity* in infant attachment. In reciprocal pair-bond relationships one partner is not perceived as being stronger or better able to cope than the other, nor are the behaviours of each member of the couple distinct between them (West & Sheldon-Keller, 1994). Consequently, at this age, the complementarity is not always in the same direction, for reciprocity can include intermittent interludes of complementarity (Stevenson-Hinde, 2005).

Adult attachment provides a special relationship with another person who is perceived as available, responsive, and to whom we may turn for emotional and instrumental support. In this sense, the availability of the attachment figure is necessary, but his ability to respond to the other's needs is also central (West, Sheldon, & Reiffer, 1987). Additionally, Henderson and cols. (1980) have underlined the independency between the attachment figure's availability and the partner's perception of that availability - despite the fact that high levels of availability of the attachment figure may be present, the subject may perceive them as inadequate. Finally, personal characteristics may, equally, difficult the subject's use of his available attachment relationships, or lead him to an ineffective use of these relationships in times of stress (West, Sheldon, & Reiffer, 1987).

In the development of attachment theory, Bowlby preserved Freud's hypothesis that the infant-parent relationship is a prototype for later love relationships (Bowlby, 1958; Freud, 1949/531). As Bowlby (1980; p. 41) stated: "*On the way in which an individual's attachment behaviour becomes organised within his personality turns the pattern of affectional bonds he makes during his life*". However we should underline that it is not the quality of primary attachment in childhood itself that forges adult interpersonal relationships. Rather, it is the working models of those attachments that are critical for adult intimate relationships<sup>25</sup>. According to West and Sheldon-Keller (1994), the stability of early representations in adulthood depends upon whether they are confirmed by subsequent attachment events. Through time, in a cyclical and mutually reinforcing way, external events and inner representations are fashioned into an attachment state of mind.

For many developmental authors, the concept of security is the core of the attachment system: it is a unique control system that measures access to the attachment figure and maintains, in ordinary situations or in emergencies, a balance between attachment and exploration (Waters & Cummings, 2000; Holmes, 2001; Crowell, O'Conner, Wollmers, Sprafkin, & Rao, 2002). The safe haven is conceived as a crisis response mechanism (Waters & Cummings, 2000). Crowell et al (2002) emphasized that the secure base phenomenon in infant-caregiver relationships provides a valid and convincing perspective to study the secure base behaviour in adults. Waters and Cumming (2000) also consider that the secure base concept (table 1) is central to the logic and consistency of attachment theory in the sense of an organizational construct (Sroufe & waters, 1977). Variations of this phenomenon, such as with young children, help to define individual patterns. The term secure attachment (Waters *et al.*, 2002) refers to both the use of a secure base in different contexts and moments of everyday life, as well as to the confidence in the attachment figure's availability and responsiveness.

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<sup>25</sup> According to Blom and van Dijk (2007), although the representation of early attachment relationships accentuates the eventual representation of more recent interpersonal relationships, it seems misleading to call the latter "attachment representations", given all the changes that underwent since the original attachment representations. A better term would be "internal working models" (Bowlby, 1980) or "internal representational models" (Crittenden, 1995). Moreover, doubt has been raised about the categorical nature of the attachment differences itself (Fraley & Waller, 1998; Cowan & Cowan, 2003), adding another argument to the conclusion that it is only confusing to call these representational models "attachment representational models"; let alone speak of "attachment relationships".

In optimal secure relationships, a partner signals his needs clearly and consistently until there is a response, approaching the other partner directly for help or support. The support received is comforting: the adult is able to re-establish emotional equilibrium and return to normal activity and exploration. In providing secure base support, the other partner is interested and open to detecting signals, to recognising that the partner has a need or is in distress, in interpreting correctly the need and in giving an appropriate response in time. One partner's responsiveness to the other's concerns need not exactly match, as long as the response considers the well-being of the partner and the relationship as a whole. It seems that adults require, for a romantic partnership to develop into an attachment relationship, repetitive interactions of the secure base type (Crowell & Treboux, 2001).

**Table 1** - The adult secure base phenomena according to Waters & Cummings (2000)

| <b>The secure base phenomena in adults</b>   |   |
|--|---|
| <b>Secure base contexts and partner support</b>  | <b>Secure base behaviour and representations</b>  |
| The partner supports the subjects' personal exploration and aims, requesting simultaneously a secure base support. | Involvement in the adult partnership. Secure base support to friends and younger partners (guiding role)  |
| Transition to parenthood.  | Close coordination with the partner, balance between work, parenting and other tasks, using the secure base experience to organize and motivate a secure base support to the partner and the child. |
| Children call for a secure base support.   | Serving as a secure base for the children, an effective support with parenting tasks is required from the partner and the parents.  |
| Crisis and urgencies, older parents and older partner.   | Provide a secure base outside the parenting tasks.  |
| Aging; support and secure base needs increased.  | Request and accept the partner, children and other people as secure base.   |

As we have referred before, a major difference between adult-adult attachment relationships and parent-child relationships is that, the attachment behaviour system in adults is reciprocal. In other words, both secure base use and secure base support should be observable in adult individuals, and the partners must shift between the two roles. Another critical difference is that whereas a parent-infant relationship can be considered new from the infant's point of view, both adults in a partnership have had many attachment-related experiences. Integration of past attachment experiences and representations into a new attachment relationship is one of the great challenges for the individuals and the developing relationship. The three domains, or

sources of influence, can be roughly divided into parent-child attachment relationships, peer and romantic relationship experiences (including the experience of one's own parents' marriage) and the current adult attachment relationship (Crowell & Treboux, 2001).

Collins and Feeney (2000) have developed an attachment perspective that considers support seeking and caregiving in intimate relationships, in view of a process that involves dyadic interactions of two distinct behavioural systems: commitment and caregiving. For these authors, social support is an interpersonal transactional process that implies the effects of a partner's support seeking and the other partner's caregiving responses. The importance of support seeking and caregiving is crucial for the development of confidence and security feelings in intimate relationships. For adults, commitment will be activated if the security feeling is threatened so that, when subjects have to face events perceived as stressful or threatening, they will tend to desire or to seek contact with significant figures. In this line of reasoning, adult support seeking behaviour should be viewed as a demonstration of the attachment behavioural system (along with express distress or search for comfort or assistance). One contribution to the feeling of emotional well-being comes from having an accessible attachment figure that could be used, if necessary, as a safe haven.

Collins & Sroufe (1999) have particularly worked on the concept of *psychic intimacy*. They recall the way intimacy becomes incredibly important for the social competence during the pre-adolescence and adolescence, since the primary developmental task of this period is to form close and mutual relationships. They define Intimacy as an interpersonal process within which, two partners in interaction experiment and express feelings, communicate verbally and non-verbally, satisfy their social intents, speak and learn about themselves and their unique characteristics, and become close. According to these authors, the close emotional interactions derive not only from mutual disclosure behaviours, but also from experiences of feeling understood, of validation and of being objects of care, which result from such disclosure behaviours. However, adults differ among themselves in the way they cope with distress and regulate their security feelings. The individual differences in attachment styles can influence the nature and quality of supporting interactions between intimate partners. These differences are designated to reflect internal working models of self and others.

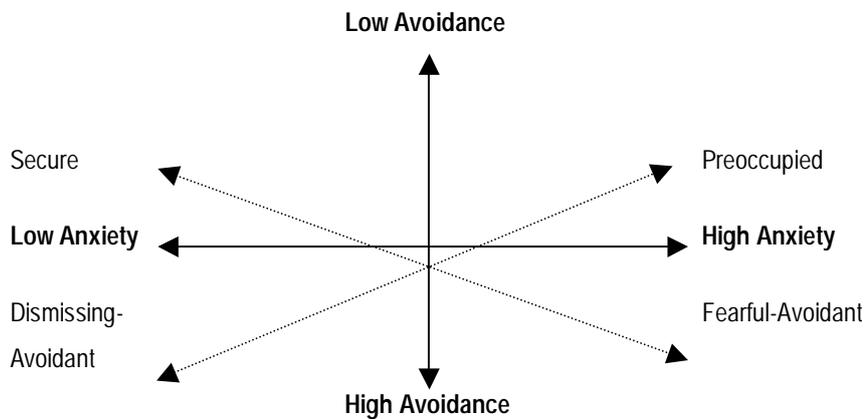
In the research field of personality and social psychology, Hazan and Shaver (1987) were pioneers when proposing romantic love as an attachment process. That is to say, adult lovers form affective bonds, analogous in many ways to those formed between infants and their caregivers, which reflect their working models of self and of social life. Shaver & Hazan (1993), suggest that Bowlby's attachment theory (1982) may clarify some aspects of the romantic love among adolescents and adults, especially in what concerns systematic individual differences of behaviours and psychological defences raised by romantic relationships. In order to study the attachment aspects of adult relationships, Hazan and Shaver (1987) created a simple categorical measure of what has come to be called "attachment style". The authors suggest that the three attachment patterns identified by Ainsworth, Blehar, Waters, and Wall (1978) – insecure-avoidant, insecure-ambivalent/resistant and secure – still exist in adolescence and in adult life, giving colour to the nature and experience of romantic relationships. Infants and adults with a *secure* attachment style are the ones who find it relatively easy to trust others, open up emotionally, and commit themselves to a long-term intimate relationship. Those with an *anxious* style are uncertain of whether they are or aren't loved, worthy of love, and likely to be protected. This fearful uncertainty explains their excessive vigilance, reassurance seeking, frequent protest, and jealousy. Those with an *avoidant* style have learned that in order to feel relatively secure they have to rely heavily on themselves and not openly seek support from a partner, even when (especially in the case of infants) such support is necessary for survival and optimal development (Schachner, Shaver, & Mikulincer, 2003).

According to Hazan and Shaver (1994), one advantage of the attachment theoretical approach in adult love is that it helps to explain the powerful emotional reactions that accompany relationships interruptions, whether of separation, divorce or death. When the loss of a spouse occurs, especially when abruptly, the typical reaction is similar to the anguish of separation in infancy (including uncontrolled despair, concentration difficulties, sleep disturbances, anxiety, tension and anger). These are profound and uncontrollable reactions, which Bowlby argued as being biologically designated to help the attachment figure recover. As such, the attachment system does not 'relax' in response to the simple environmental requirements. This is true for attachment in children but also in adults. As it is known, going through an experience of loss can lead to continually telling the same story for months or years, confounding anger with the fact that the person "has left" – and even acknowledging that it is an "irrational" reaction. We could say that the attachment system is more primitive than rational and that this is why romantic love and the intense anguish for the loss of a loved one seem uncontrollable and

"crazy". The system as a whole, however, does not seem crazy at all, given its functional biological importance both in infancy and adulthood. It only seems crazy when the goals are not met. We should also add that the attachment figure does not need to be physically present so that an "interaction" between her and the subject occur; which makes more understandable that people could have imaginary, but very convincing emotional interactions with rock stars, dead philosophers, etc. Attachment, separation anguish, and grief are primary psychological processes; they therefore require psychological interaction partners and not necessarily physical ones.

For some time, researchers who studied adult romantic attachment used the three-category measure of adult attachment style (see Shaver & Hazan, 1993; Shaver & Clark, 1994). Over time, researchers in both the infant-parent field and the adult romantic attachment field moved from a three to a four-category classification system. The four categories used by personality/social psychologists correspond to the four quadrants of a two-dimensional space defined by anxiety and avoidance (e.g., Bartholomew, 1990; Shaver & Clark, 1994). More recently, adult attachment researchers (e.g., Brennan, Clark, & Shaver, 1998) are moving towards a consensus on two continuous dimensions, anxiety and avoidance, not only because these are consistently obtained in factor analyses of attachment measures, but also because dimensional representations of adult attachment styles are now seen as more accurate than categorical representations (Fraley & Waller, 1998). In figure I, we show the two dimensional space and the four attachment types proposed by Bartholomew (1990): secure, preoccupied (anxious), dismissing-avoidant, and fearful-avoidant. On the horizontal axis, there is a response "dependency" which ranges from low (self-esteem is internalized and there is no need for external validation) and high (self-esteem requires validation from others). The vertical axis reflects to a greater extent the behavioural degree of avoiding close contact with the others.

**Figure 1** – Diagram of the two-dimensional space defined by attachment anxiety and attachment avoidance.



According to Kim Bartholomew's approach, attachment styles vary according to the image (positive or negative) that the person has of himself and of the others. If we may specify, we have seen the way in which internal working models, according to Bowlby, construct an internalized image of the other as trustworthy and available, and accordingly, an image of the self as valuable, worthy of being helped and of being comforted. Bartholomew (1990, 1997; Bartholomew & Horowitz, 1991) conceptualized a model of commitment in adulthood, considering two dimensions: "model of self" and "model of the others." Each of these dimensions can be either positive or negative; by combining them, she arrives to a four-category classification: "secure" (positives models of self and others), "preoccupied" (negative model of self and positive model of the others) "dismissing-avoidant" (positive model of himself and negative model of the others) and "fearful-avoidant" (negative models of self and others).

Although important, the measure developed in Hazan and Shaver's exploratory proposition (1987) of attachment style was extremely simple. Currently, most psycho-social researchers assess adult attachment security either in terms of the referred four-category model (Bartholomew, 1990), or in terms of the continuous dimensions of comfort with closeness and anxiety in relationships (Feeney & Noller, 1990). As Hazan and Shaver underline, another equally important limitation of their measure was the focus on individuals' reports of a single most important love relationship. Despite this cautionary note, studies of romantic attachment have sometimes been seen as implying that attachment style is trait-like. In fact, there has

been ongoing debate as to whether attachment styles are characteristic of the individual or of a specific relationship, but this question implies a somewhat false dichotomy. On the one hand, individuals often select environments that confirm their existing views of the world; hence, one's security at a given point in time may reflect *both* the current relationship and prior tendencies (Kirkpatrick & Shaver, 1992). On the other hand, clinicians and researchers agree that relationship experiences can disconfirm existing working models (Rothbard & Shaver, 1994). These points highlight the twofold importance of partners' characteristics: they can either maintain existing working models or promote change for better or for worse (Jonhson & Best, 2003).

In this line of thought, Jonhson and Best (2003) argue that a partner may buffer the negative effects of insecurity (Chon *et al.*, 1992) and foster the sense of the couple's security. If the other partner has a secure attachment, this experience of warm and responsive interaction confirms existing models; if the other partner is insecure, the experience disconfirms existing models and may gradually reshape them (Feeney, 2003; Rothbard & Shaver, 1994). In other words, when a secure partner consistently encourages openness and mutual expression, the insecure partner can modify maladaptive behaviours associated with insecurity. However, a couple containing at least one insecure partner can also erode the sense of security of both its members. The insecurities in one individual can be perpetuated, or even exacerbated, by the responses of his or her partner, and even secure individuals can become anxious about loss and rejection in the face of emotionally distant partners – for example, an avoidant partner may prompt the secure other in feeling and acting anxiously (Feeney, 2003; Hazan & Shaver, 1987). The couple system contains homeostatic features that tend to maintain a relatively stable state; when behaviour exceeds the expected range, it is controlled via corrective feedback loops, which can involve rigid patterns and considerable distress in the case of dysfunctional couples. Destructive pursuer-distance cycles (a struggle to regulate proximity and control the emotional climate of the relationship) can be maintained in part by negative perceptions of intention (Feeney, 2003; Byng-Hall, 1999).

In conclusion, the reciprocal attachment relationship may be defined as the proximity to someone "special", preferred and searched or maintained, in order to feel secure; it is an emotional partnership where loss induces sorrowfulness and protest, being that the partner is

irreplaceable. The function of attachment - the provision of safety and security - remains stable throughout the life span, although the mechanisms to achieve this function change and develop with maturity (West & Sheldon, 1989, 1994). Thus, according to Bowlby (1969) and Hinde (1982) the primary function of adult attachment consists in providing protection from danger by maintaining a mutual and reinforcing relationship with a specific adult. Although in both infancy and adulthood security plays a major role, the mutual symmetrical security in adult partner relationships, built mainly on verbal communication, must be different from the asymmetric one-way security in pre-verbal or pre-conscious attachment systems (Blom & van Dijk, 2007).

As we have mentioned before, in childhood attachment patterns and representations are also subject to change, but only if there is a corresponding change in the quality of parent-child interactions (Bowlby, 1969/1982). However, Bowlby hypothesised that change in attachment patterns could occur in later life through the influence of new emotional relationships (that is, another type of change in the caregiving environment) and the development of formal operational thought. This combination of events would allow the individual to reflect and reinterpret the meaning of past and present experiences. It would also allow him to incorporate a mental representation within the attachment behaviour system, thus providing a way of understanding developmental change in the expression of attachment and its ongoing influence on development and on behaviour in relationships (Crowell & Treboux, 2001). The importance of this reformulation of the individual attachment working models and hence for the interruption of intergenerational cycles of insecurity is fundamental. As we will see in the next section, the partners' attachment patterns – with their parents and with each other as a couple – are associated with the quality of the relationship we observed between them and their young children. This is so because the ability to regulate or deal with positive and negative emotions in their families of origin is related to their ability to regulate negative emotions in their new family – in their relationships as a couple and with their children (Cowan & Cowan, 2001).

## 1.5. The Intergenerational Transmission of Attachment

One of the authors who has most contributed to a more broad and comprehensive view of attachment, Jay Belsky, advances the notion that attachment theory, for a long time, has been seen essentially as a developmental theory of micro processes, emphasizing the caregiver-infant interactive exchanges and the child's working model during development. In contrast, the ecological and socio-contextual perspective identifies the contextual factors and the processes that influence these micro-developmental processes. In this sense, the ecological perspective transforms an independent variable – the patterns of mother-infant interaction – in a dependent variable, that is to say, in something that has, itself, to be examined, explained and understood. It is in this context that empirical research points out that distal factors, such as the marital relationship, operate interactively and/or additively to predict the infant-parent attachment (Belsky, 1999; Belsky & Isabella, 1988). Furthermore, when considering the associations between marital relationship and attachment it is necessary to take into account both the mediator (*e.g.*, from parental behaviour) and the moderator processes (*e.g.*, interactions with the mother's attachment representation; Belsky, 1999). This is because, as Bronfenbrenner (1979, p. 38) said, in human development ecology – and making a parallel to infant's attachment (in)security etiology – *"the principal main effects are likely to be interactions."*

The study of attachment intergenerational transmission, regarding the processes developed in the subjects' relational space, reports us necessarily to this contextual analysis and to the conditions under which it occurs. Under normal circumstances, the attachment figure integrates his personal experiences with the child in his mental model of close relationships, which was formed on the basis of his relationships with his family of origin (Fonagy, 1999). As a result, his way to socialize and interact with the child shall be presumed to be an expression of the caregivers' attachment story. Based on this model of assimilation of parenting it is postulated that the quality of social bonds between a child and his parent are transmitted across generations (George & Solomon, 1999). In this line of thought, Bowlby (1973, pp.322-323) speculated that *"the inheritance of mental health and mental illness through the medium of family microculture... may well be far more important than their inheritance through the medium of genes."*

Belsky, Steinberg, and Draper (1991) theorize that attachment can serve as a psychological mechanism through which the developmental experiences of the parents are transmitted to their children, to guide them in their path and reproductive strategy<sup>26</sup>. The probability that this transmission occurs will be dependent on their evolutionary advantage in a context of a stable *versus* unstable environment.

At its origin, attachment theory postulates that the early connection between the child's parent and grandparent is probably linked to the attachment connection that the child develops with his parent. If we assume that ecological and contextual conditions were stable between generations, attachment transgenerationality has an evolutionary sense. However, even in such circumstances, we can understand why the intergenerational transmission route of the attachment system is experiential and not genetic: since there is no perfect environmental stability, were this information to be unavoidable and biologically inherited, it would not consist in an evolutionary advantage (Belsky, 2005).

Although intergenerational transmission appears to operate in most cases, the possibility of flexibility in the system, when contextual conditions change markedly between generations, is also possible. This is so because the factors leading to reproductive success and maturity of the children, in a way that they can also reproduce, may differ from one generation to another. A secure or insecure attachment strategy that works well in a certain generation living in specific ecological conditions may be distinct from another that works better in the next generation, according to contextual differences (*idem*). In this case, one would expect the self-organisational capacity of the systems, pressed by external factors, to promote changes in the interpersonal dynamics of its members, in a sufficient way to carry out a change in the style of the individual's representation, thus interrupting the intergenerational cycle.

Implicit in the previous analysis is the notion that children are affected by the kind of caregiving they receive. According to Belsky (2005), there is little developmental support to explain the variation in children's susceptibility to caregiving, especially among children of the same family.

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<sup>26</sup> Bowlby's reasoning on attachment has allowed a qualitative change of the classical psychoanalytical interpretation models, which conceived the link mother-infant as a product of classical conditioning (i.e., the child's nutrition needs would be associated to the pleasure felt in physical contact with the nurturing mother). This link will, from now on, be designed as a product of natural selection (i.e., the child's protection needs are increased by the security felt when in proximity to the mother in threatening contextual conditions). Modern evolutionary psychology developed attachment theory in order to make this bowlbian emphasis transit from the success of the species survival to the individual's reproductive success (Belsky, 2005).

But from the evolutionary, biological, or developmental point of view, it makes sense that there are differences in the children's responsiveness to this caregiving (as well as some degree of distinction in the parents' caregiving responses to these differences in children's receptiveness). Since we believe that the process of attachment intergenerational transmission is mediated by the quality of caregiving provided by the attachment figure, it is possible that the occurrence of such transmission is dependent, to some extent, on the children's susceptibility to these parental practices. A growing body of empirical evidence supports this position, showing that children with intense emotional negativity are more likely to practice good parenting when they receive emotional supportive care, and bad parenting, when they receive less supportive care - at least regarding some developmental products (for review see Belsky, 1999).

In sum, we can say that despite the probability of a cross-generational attachment transmission to occur depends largely on contextual variations or the siblings' receptivity to parental practices, the tendency seems to be that it takes place in greater proportion than not. This seems to be related to the rarity of occurrence of contextual or ecological changes (between subsequent generations) in a sufficient intensity to alter the interpersonal patterns of functioning inherited by the parents at the third generation level. Given the non-genetic, but experiential nature of attachment transmission, these external changes appear to be essential for a modification in the working models of the second and/or first generations. These external changes will allow the interruption of the intergenerational cycle via: changes in the normative models of the caregivers' role and/or the presence of working models less permeable to the influence of educational practices, and processes of earned security.

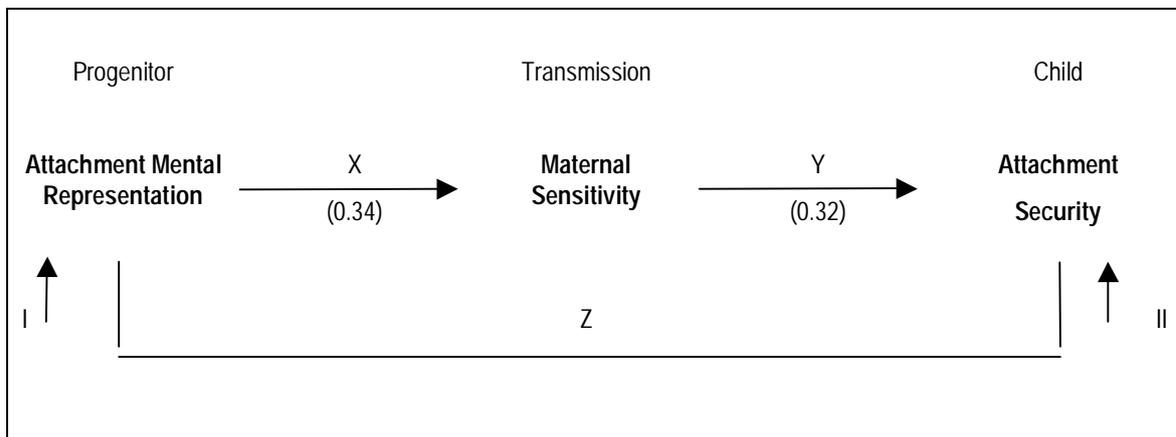
### **1.5.1. The Transmission GAP**

Consistently with the bowlbian emphasis (1973) on the role of family micro-culture, attachment theorists assume that: (a) the quality of parenting experienced by the child strongly influences his ability to establish a secure or insecure attachment with his parent; (b) the security/insecurity established in the early years remains more or less stable over time (except if contextual conditions profoundly change), leading therefore to security/insecurity in adult life;

and (c) the security/insecurity in adult models, specifically, their parental behaviour and the family relationships in general, promotes security/insecurity in the offspring (Belsky, 2005). As we will see in the next chapter, there are abundant empirical evidences consistent with this general model of development.

Despite the fact that van Ijzendoorn (1995) discovered in his meta-analysis, that maternal sensitivity mediated the relation between attachment security of the parent and of the child, this author stresses that the effect of this association (24%) is relatively modest. According to him this reveals an *“uncharted territory in the field of transmission of attachment, referred to as transmission gap”*. As Main and cols. (1985) promote *“a move to the level of representation”*, with the development of the AAI, DeWolff and van Ijzendoorn (1997) point out that on the attachment transmission domain *“in attachment theory, a move to the level of context may be necessary”* (p. 586). In figure II, it is clearly understood that only a limited part of the correspondence between the parents’ attachment and the child's can be explained by the mediator strength of the responsive sensitivity, remaining the complete process of attachment intergenerational transmission to be explained (van Ijzendoorn, & Bakermans-Kranenburg, 1997).

**Figure II – The Transmission Gap (van Ijzendoorn, & Bakermans-Kranenburg, 1997).**



X = parental attachment influence on parental responsiveness.

Y = parental responsiveness influence on child's attachment security.

Z = parental attachment influence on child's attachment through distinct mechanisms other than responsiveness.

I = not specified influences on parental attachment.

II = not specified influences on child's attachment.

In an attempt to explain the transmission gap, many authors have tried to go beyond the maternal sensitivity, emphasizing that much of this process's influences operate through other mechanisms and that some of these influences are not yet fully known, even if understood or empirically validated. It is in this sense that we highlight the role of mind-mindedness and of the self-reflexive function, as well as the contribution of communication and marital and familial emotional atmosphere, to the understanding of attachment transmission. We also underline the special interest for research in analysing the disagreement cases between adults' and their infants' attachment organisations that can heavily contribute to the refinement of attachment theory, to the deepening of the attachment transgenerationality topic and to the exploration of its contextual limitations (see point 1.5.3.).

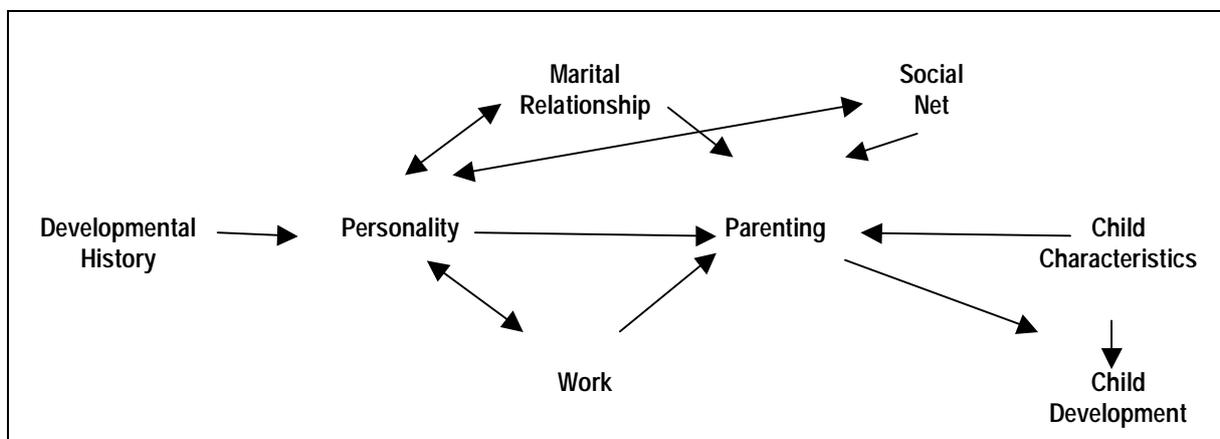
Meins, Fernyhough, Fradley and Tuckey (2001) postulated that the mother's ability to see things from the child's point of view and to consider him as a person separate from her - that is, *mind-mindedness* - can play an especially important role in the development of a secure attachment in the child. In general, these authors' work clearly demonstrates, at least in the small samples studied until now, that the maternal ability to represent the mental and emotional state of her infant contributes to the latter's security. Therefore, if further work reveals that the mind-mindedness is consistently related to attachment in adults, we can consider the possibility that it could play a role in the security of attachment transmission from one generation to another (Bernier & Dozier, 2003).

Regarding Fonagy's (1993) construct of "self-reflexive function", defined as the mental capacity of the individuals to become, themselves, their subject of thought, the study of these internal representations (carried out with borderline patients) has shown that the person's ability to use mental representational constructs in the discussion of her attachment relationships during the AAI is associated with differences in her parental sensitivity. When this ability is not developed, the implications for attachment transmission are relevant because, when these individuals become parents, they are subject to serious risks of recreating their negative experiences with their children.

Whether we consider maternal sensitivity, mind-mindedness or the self-reflexive function, the focus for the explanation of the attachment intergenerational transmission process has been, so far, the experience of the child in direct interaction with his parent. Nevertheless, according to Belsky (2005), the emotional family atmosphere in which the child is developing can also

affect attachment (or even the surrounding community life in societies less focused on nuclear family). This is so because these distal factors, in the parents' and the child's interactive context, are, at least, likely to affect the behavioural interactions between the dyad, regarded as the means through which the relationship develops. In figure III, we present the "Procedural Model of Parenting Determinants", proposed by Belsky (1984), which has as a basic proposition the differences in the quality of the parent-child relationship nature as multi-determined (Belsky, & Isabella, 1988).

**Figure III – Procedural Model of Parenting Determinants .**



As we can see, parental contribution to the child's development has many ways of expressing itself, through the parents as individuals or as a couple. Individually, each parent promotes security in the caregiver relationship, helping to form the attachment representation. In addition, each of the partners helps the other to model his or her attachment relationship with the infant. For example, especially for the mother, the caregiving role is not an easy duty. The infant's demands always seem to take precedence over the needs of the mother. Many authors mention the mother's ambivalence concerning this assignment (Bowlby, 1951; Hrdy, 2005). This ambivalence may hinder the establishment of a secure attachment. It is normal to posit that the couple system is the necessary support system for the parents to overcome these adaptive difficulties.

Concerning the parents as a couple, one may expect that a qualitatively satisfying intimate relationship in the early caregiving days may help the formation of a secure attachment development with their children (Colin, 1996). Moreover, as Isabella (1994) postulates, problems in the couple's relationship will make the establishing of a secure attachment with the child much more difficult and unreliable. In this sense, Davies and Cummings (1994) introduce the "Emotional Security Hypothesis", that considers the child's sense of security as not only being delineated by his interactions with his parents, as attachment theory requires, but also as developing in the context of the marital relationship (i.e., considering functional differences between marital and parental subsystems). This position, arguing that marital quality can directly affect the children security, has been supported by a growing set of research revealing that marital conflict is disturbing for children, especially when frequent, intense and permanently unresolved (for review see Davies, & Cummings, 1994; Cummings, Davies, & Campbell, 2000; Davies, 2002).

According to Blom and van Dijk (2007), another way in which the parents' intimate relationship is important, relates to the fact that the newborn infant hasn't the ability to join a social system, and is unable to participate in structured processes of communication. For the healthy development of the mentalizing and reflective function, the infant needs one or more relationships of very high intensity with conscious adults. The first relationships of high intensity are attachment relationships. In these, even at a very early age, the infant begins to develop his self, the mentalization process and the reflective function (Fonagy & Target, 1996). At the beginning this is a kind of pre-verbal consciousness (Damasio, 1998). Later, by the fourth or fifth year, reflective function or mentalizing is established, together with the development of language, and with it the "extended consciousness" (Damasio, 1994). The development of the parent's intimate relationship seems to be of particular importance for the infant's security, as it provides an environment of security and communication, while serving as a model for the relationship representation of the child. An inverse relation between these factors may naturally be supposed.

Most systemic theories, as the attachment theory, consider family communication as a vital factor for good family functioning (Watzlawick, 1978). The ability of family members to evaluate and respond to each other adequately provides clearer communication that is processed more efficiently. An answer to a family topic in the realms of attachment requires a precise identification of the thematic, shared by all family members, and a set of compatible

interpretations to the feelings and thoughts of each one of the family members. This requires an unequivocal emotional communication and a coherent discourse among family members, which leads to an effective action. In addition, the extent to which family members can treat different domains as separate and distinct from other action/affection domains or other reflexive processes is an important marker in the family effective functioning. When communication fails in clarity and family members are not certain as to the boundaries between domains, individual emotional reactions are likely to become a source of confusion, weakening their concept of family membership and resulting in a biased sense of personal identity. Since the probability of their self-expression to be poorly understood or answered in inconsistent and confusing ways is high, individuals, at these moments, lose confidence in their own abilities to communicate their feelings, beliefs and desires (Hill *et al.*, 2003).

Also according to Bowlby, patterns of verbal and non-verbal communication are the processes through which internal working models of secure and insecure attachment relationships are generated and maintained, and through which they are transmitted to the next generation. By the way a parent usually responds to the child, he also transmits the sense that he is worthy of response or not. In this context, like other psychoanalysts (e.g., Stern, 1985), Bowlby extensively developed his ideas on the role played by parent's deliberate bad communications in the disorganisation or confusion of the child's working models. Nevertheless, he also emphasized (albeit briefly) the facilitator role of parents in helping their children in building and reviewing their internal models through dialogue: parents who experienced transactions with responsive and accepting attachment figures in their infancy, are better able to respond to their own children's suffering with empathy and emotional support. As a result, their children are, not only more likely to feel understood, valued and competent, but also to build functional internal working models of the self and the caregiver (Bretherthon & Munholland, 1999).

### **1.5.2. Discontinuity in Attachment Organisations across Generations**

Discontinuity in attachment, within and across generations, is also theoretically anticipated by attachment theory. The absence of intergenerational transmission can result of several factors, including simple measurement error, though we need to recall the role that lived mediational experiences play in this process. When events and experience conspire to promote changes in

the individual's attachment working models, whether that person is an infant, a teenager, or an adult, discontinuity of attachment, both intra and inter-generational, can be expected.

People range in the extension in which they possess open models to the actualization and revision (Bowlby, 1988). When they incorporate new information about the self and the other, the models remain quite accurate. In contrast, when the information about changing on the circumstances or of an attachment figure is excluded or ignored, the models become outdated. Only the models reasonably accurate may promote adaptive behaviours in the relationships (Bowlby, 1988). Accurate models provide to the partner appropriate expectations about the partner's behaviour and help the access to him. As a result, the plans and strategies to get to the partner, to coordinate activities and to conciliate conflicting aims, must produce results that are more successful. In contrast, if the partners fail to review and actualize their working models, their behaviour is directed by inaccurate and old-fashioned assumptions (Kobak, 1991).

If the working models contribute for the relationship adjustment, the process that facilitates their revision and actualization deserves to be considered. Bretherton (1993) and Bowlby (1988) propose that the communication facilitates the revision of the working models, by allowing the individual access to potential disconfirmatory information. Open communication between the partners provide to individuals information about the self and the other that allows the working models to become precisely more accurate. In certain times, the communication may provide the access to information that disconfirms previously expectations, evidencing the need for models revision. This way, the attachment security must promote communication and the necessary desire to change working models (Kobak, 1991).

The pioneer study of Main and cols. (1985) empirically showed indeed that intergenerational transmission of attachment patterns is avoidable. Organizational change in insecure working models is possible, with a lower probability of occurrence when life circumstances remain relatively constant and a higher one, in particular cases, where the mother experiences a relationship with a stable partner (Sroufe, 1988). Given not all adults with a coherent AAI recall a secure childhood, a model of transmission in three generations is not linear. What seems to be critical, in terms of attachment transmission from the parents to their children, is the ability of the first ones to produce a narrative consistently organized of their attachment relationships experiences in childhood, when they are remembered and interpreted at the present time. The

implications of this explanation for attachment intergenerational transmission are very important, once that it corroborates the traditional idea that psychotherapy of success and its relationship with a mentally healthy life are dependent on the subjects' ability to report a coherent life story (Bretherthon, & Munholland, 1999). According to Bretherthon (1990), even if this is in fact the process which mediates attachment transmission we still have to know what are the processes that mediate changes in attachment working models.

In the next chapter, we will focus on the empirical observations of the dyadic interaction mother-baby, at the origin of the development of the laboratory procedure called Strange Situation. This procedure is precisely associated with the study of the individual differences in the attachment behaviour organization in the first two years of the infant. The empirical assessment of attachment organization in adults through the Adult Attachment Interview, as well as the use of other measures for assessing reciprocal romantic attachment, typical at this life stage of the individual, will also be the subject of our attention. Finally, we will be presenting a review of the major correlational and causal studies on the topic of attachment transgeneracionallity, particularly the ones related to the influence of the marital relationship in this process.

## **Chapter 2 - The Empirical Study of Attachment Transgenerationality**

Attachment theory researchers have examined attachment transgenerational transmission by determining the extent to which the security measures of the child are related to the attachment mental representation of their parents. Before the exposition of this body of research, we shall proceed in this chapter to a systematisation of the empirical study of attachment in infancy, followed by a review of the main methods through which attachment in adults is assessed in the context of their earlier or current relationship experiences.

## 2.1. Empirical study of attachment in infancy

The role of Ainsworth in the theoretical and empirical study of attachment distinguishes itself from the one of Bowlby by the introduction of three innovations: a) the emphasis on the attachment figure role; b) the concept of secure base, c) the notion of maternal sensitivity to the needs and communications of the infant. The Strange Situation, a laboratorial procedure created by Ainsworth and cols (1979) offers the possibility to assess the behavioural and emotional processes in relational context and it opened new horizons to this research field. *"If we are to understand patterns of attachment behaviour and the conditions that give rise to variations in children, it is necessary to bear constantly in mind the larger system of which attachment behaviour is a part, and the variations in patterns of interaction that occur between one mother-child couple and another"* (Bowlby, 1969/1982, p. 332). We will expose, in what follows, the contributions of the author, at a methodological and conceptual level, in order to better understand the interaction of the infant with his attachment figure, as well as the role of that figure in the development of a secure attachment in the child.

The origins of Ainsworth's work go back to the years of 1954-1955, when she prepared a naturalistic longitudinal study, where she observed a group of 25 dyads (mothers and their children) belonging to a tribe of Uganda (Ainsworth 1963, 1967). Backed by her detailed records, collected during a few hours daily for about seven months, the author identified behavioural characteristics of infants considered attached to their mother. In most cases, the attachment behaviour emerged, as predicted by Bowlby (1969/1982), around 6 months (i.e. , Phase III of attachment development) manifesting itself not only by crying at the absence of the mother, but also by the greeting upon her return (through smiles, offering their arms and emitting sounds of pleasure directed to her). Some of these behaviours were not exclusively directed to the mother, they could also occur with other adult relatives.

In a subsequent moment (Ainsworth, 1964; Ainsworth, Bell, & Stayton, 1972, 1974), the author has elaborated a longitudinal project in family context, aiming to study infants' attachment development during the first year of life, in a sample composed by 26 mother-infant dyads living in Baltimore (USA). Her observations were made from the infants' birth until their twelve months at intervals of three weeks. During several hours, like had happened in Uganda, a home register of the mutual interactions of the infant with his mother as well as with other persons was made. These observations included two types of measures focused either on the infant or on the attachment figure. The infant's behaviour was examined regarding variables as crying and communication; reactions to mother's departs or returns; reactions to body contact with the mother and to a face-to-face situation; obedience and expressions of

irritation. The maternal behaviour was evaluated, in turn, through four scales that assessed: maternal sensitivity, cooperation, acceptance and availability (for methodology review see Ainsworth, Bell, & Stayton, 1971; Bell & Ainsworth, 1972; Blehar, Lieberman & Ainsworth, 1977; Stayton, Hogan & Ainsworth, 1971).

The Strange Situation was planned in this context so that, in an experimental situation, we could stimulate and activate, in a more intense and controlled way, the infant's attachment system. This laboratory procedure consists on a fixed sequence of several episodes, designed to be similar to the situations that most infants have to deal in their daily lives, in order to activate and/or intensify the attachment behavioural system of the one-year-old infant. Fundamentally, it involves two brief separations and two reunions between the infant and the attachment figure (Ainsworth & Wittig, 1969; for details see part II, chapter 3).

### **2.1.1. Attachment Individual Differences in Infancy**

The empirical and conceptual work on the field of attachment patterns is based on the propositions of Bowlby and Ainsworth, which articulated their ideas related to individual differences over three decades. Bowlby describes two types of variations in attachment: presence versus absence of attachment relationship and individual differences in the organization of secure base behaviour in the dyad infant-caregiver. The attachment patterns described by Ainsworth fit into the latter category of attachment variations.

The assessment of infants' attachment patterns in the Strange Situation is based on the frequency of specific behaviours in each one of the referred episodes, under which is possible to identify three attachment behavioural patterns, whose characteristics are subjacent to their own designations: insecure-avoidant pattern (A); secure pattern (B); insecure resistant/ambivalent pattern (C) (for details see part II, chapter 3). As we will see below, Main & Solomon (1986) added afterwards a fourth category called insecure disorganized/disoriented pattern (D)<sup>1</sup>.

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<sup>1</sup> We can find in the classification of the adults attachment organizations, to which we will refer below, a parallel with these designations, more precisely: Insecure-dismissed organisation in adults with insecure-avoidant pattern in infancy; secure organisation in adults and in infants; insecure preoccupied adult organisation with the children insecure-ambivalent/resistant pattern; unresolved adult organisation with Disorganized/Disoriented pattern in infancy.

The insecure-avoidant group (A) is characterized by the infant's avoidance to manifest attachment behaviours towards the attachment figure. Especially in episodes of reunion, he ignores or moves away from the caregiver. Moreover, the infant shows neither proximity seeking nor actively resistant behaviour to physical contact, and does not protest at the absence of the attachment figure. The strange person is treated in a similar way to the attachment figure, and the infant may even be less avoidant with her.

In the secure group (B) are classified the infants' that evidence an active proximity seeking and interaction with the attachment figure, especially in reunion episodes. When the contact is reached, the infant seeks to maintain it, without showing contact resistance in the interaction or contact avoidance. The infant displays protest behaviours in the attachment figure absence and cannot be comforted by the strange person. We may distinguish four B subgroups.

The insecure resistant/ambivalent group (C) is characterized by the coexistence of active contact resistance behaviours and proximity seeking or contact maintaining behaviours with the attachment figure. This active search for physical contact inhibits or hinders the infant's exploration of the environment. However, C infants do not show, or show little, avoidance; they rather display resistance behaviours (irritation or passivity).

The group of infants insecure disorganized/disoriented (D), more recently discovered, evidence a series of indirect or mal-directed behavioural responses, in the context of the strange situation. The signals of disorganization, among infants of 12-18 months, observed in the presence of the attachment figure, include: a) sequential and/or contradictory behaviours; b) movements and expressions that are undirected incomplete or interrupted; c) stereotypes, asymmetric movements and abnormal postures; d) immobilization, slow movements and expressions of astonishment; e) expressions of apprehension and fear related to the attachment figure (Main & Solomon, 1990).

The longitudinal study of Ainsworth and cols. (1978), conducted at the Baltimore families' homes over the first 12 months of infants' life, has demonstrated that attachment patterns are related to the attachment figure's behaviours in the daily routine with the child, particularly in situations that activate the attachment system. Children who would later be classified as having an insecure attachment (avoidant or resistant) in the Strange Situation, showed at home, a more inappropriate angry, crying more than the children who would be classified as secure. In a systemic reading, the attachment figures of secure children consistently showed willingness and a sensitive response to their children. The

attachment figures of avoidant children tended to ignore their requests when they demand comfort and provided little body contact. The attachment figures of ambivalent/resistant children tended to be inconsistent or intrusive regarding the attachment needs and appeals of their infants; finally, the attachment figures of disorganized/disoriented infants usually presented impeditive disruptions on their caregiving behaviours (e.g., neglect, abuse, etc.).

More precisely, the attachment disorganisation/disorientation was associated with parental behaviour that is very disturbed and terrifying (frightened/frightening) for children in a situation of stress. In these circumstances, the parent figure may generate fear and apprehension, placing the infant in a situation of an insoluble conflict. Since the child's source of security is also her source of fear, the child cannot search proximity and simultaneously run away from her attachment figure (Main & Hesse, 1990): "*There is now reason to believe, however, that like frightened parental behaviour may also alarm an infant and leave him without a strategy* (Main, 1990). *This outcome seems especially likely if the parent withdraws from the infant as though the infant were the source of the alarm and/or appears to be dissociated or in a trance-like state*" (Main, 1995, p.426-427). Lyons-Ruth (1999, 2003), in turn, has integrated in "disrupting" behaviour all those behaviours that contribute to activate the child's fear system, and therefore to activate the attachment system, without an external stimuli to the caregiver-infant dyad. These so-called disruptive types of behaviour include communication errors, roles and limits emotional confusion, disorientation / fear, intrusivity / negativity and withdrawal.

We can thus establish a reasoned basis for predicting the Strange Situation behaviour from home behaviour and assess certain general characteristics of the infant-caregiver relationship based on their behaviour in Strange Situation, particularly regarding the attachment security-insecurity dimension. Some behavioural patterns in the Strange Situation also reflect the nature and extent of certain conflicts that an infant may be experiencing in his relationship with the attachment figure. According to Ainsworth and cols. (1978), "*it is the patterning of behaviours in the strange situation that 'matches' the patterning of behaviours at home. Consequently, we conclude that the comparison of strange-situation and home behaviour provides justification for viewing the strange-situation classificatory system as having continuing usefulness, and not merely as having being useful as a methodological step toward identification of dimensions of behaviour that might then be assessed independently*" (p. 136)<sup>2</sup>.

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<sup>2</sup> The Attachment Q-Sort (AQS), developed by Waters and Deane (1985) gives us an assessment alternative to the laboratory. The AQS is composed by 90 items designed to cover a range of dimensions that reflect the phenomenon of secure base in infants, aged between 12 and 60 months in a naturalist context (Waters, 1995). The classification can be performed by trained observers or by the parents. The measure includes an index of security, the correlation between the

The three patterns of attachment initially identified through the Strange Situation by Ainsworth and cols. in 1978, were then confirmed by studies conducted in different countries. The distribution found was of about 70% in the secure pattern cases, of 20% in the insecure-avoidant one, and of 10% in the insecure-resistant/ambivalent pattern. In a meta-analysis of about 2000 ratings, from eight different countries, van Ijzendoorn and Kroonenberg (1988) found that most infants were classified as safe (50-75%), one fifth to one third as insecure-avoidant (15-25%) and a minority as insecure-resistant/ambivalent (10% or less). Samples considered at risk (e.g., low socioeconomic level, young age of the mother, single parents, low social support, parents' mental disorders, abuse and inadequate caregiving) showed the highest rates of infants in insecure groups (see Weinfield, Sroufe, Egeland, & Carlson, 1999; van Ijzendoorn, Goldberg, Kronenberg, & Frenkel, 1992). In a meta-analysis conducted by van Ijzendoorn and Bakermans-Kranenburg (1999) it was found that 14% of the infants from non-clinical samples, with a median socioeconomic level (N=1882), were classified in the disorganized/disoriented pattern of attachment, and a value of 24% for the low socioeconomic level samples (N = 493).

The transcultural studies support the universality of the attachment and the presence of the main patterns of attachment in infancy previously described (van Ijzendoorn, Sagi, 1999). In several cultures, and regardless the style of caregiving (e.g., nuclear family or network of care), except in cases of extreme neurophysiologic deterioration, infants tend to organize their attachment behaviours around specific caregivers. Moreover, the three basic patterns of attachment were observed in western and non-western cultures, namely in Africa, China, Israel, Japan, Northern Europe (e.g., England, Germany, Sweden) and North and South America (e.g., Canada and United States, Mexico and Colombia).

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observer's rankings and some other criteria ratings. The inter-coders' fidelity is adequate, and it was found that the AQS differentiates the infants security in the Strange Situation with 12 to 18 months of age. However, there are not valid ratings available to distinguish between the insecure subgroups.

The assessment of attachment beyond infancy, which is not the subject of our study, remains problematic. The assessment in preschool age poses several developmental challenges: (1) The attachment system is not as easily activated, (2) the behavioural repertoire displayed by children is broad, and (3) the language skills and representations (for a possible narrative assessment) are still primitive and very variable. Assessments available include the Marvin and Cassidy Attachment Classification System (Cassidy & Marvin, 1992), the Preschool Assessment of Attachment (Crittenden, 1994), and Main and Cassidy Classification System (Main & Cassidy, 1988), although there are substantial distinctions in the methodology of validation of these measures. There is a great need to develop the study of naturalistic relationships of attachment in this range of ages.

In the cultures mentioned in the literature, most infants evidence a secure attachment. There were, however, variations of cultural order regarding the insecure distributions and its subgroups (e.g., Japan and Israel with the highest percentage of ambivalent/resistant infants). Based on Attachment Q-Sort (Vaughn & Waters, 1990), both the experts and the mothers seem to conceptualize and evaluate the security in attachment in a similar way in different cultures (i.e., Colombia, Germany, Israel, Japan and United States) (Posada, Waters, Crowell, et al., 1995).

### **2.1.2. Caregiving and Attachment Quality**

Until this moment, we have focus on the attachment development problematic, in particular on the amplitude of the attachment behaviour differences and the dimensions that best describe these variations. We will consider next the question: what precedent conditions are at the origin of each pattern of attachment?

Traditionally, the infant's attachment quality to his attachment figure has been associated with "proximal" factors, as the characteristics of maternal behaviour (mainly the maternal sensitivity to the infant's signals and communications<sup>3</sup>, but also her psychological resources, her attachment and caregiving mental representations), and the characteristics of the infant regarding his temperament. More recently, the father's role, as well as other contextual or distal variables, were also subject of study in this field.

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<sup>3</sup> We can define "maternal sensitivity" as the ability to provide sensitive and responsive care, which induces security. It relates to the mother's ability to understand the individual characteristics of the infant, accepting their external behaviours and, as such, being able to orchestrate harmonious interactions, especially those involving the ability to calm the infant in times of stress in a relatively consistent way (Belsky, 1999).

### *Maternal Variables*

According to the studies of Ainsworth and cols. (1978), a secure attachment is related to the following maternal behaviour: a) frequent and sustained physical contact between the infant and his mother, especially during the first six months, together with the maternal ability to calm her infant by in her harms; b) maternal sensitivity to her infant's signals and, in particular, the ability to manage her interventions in harmony with the infant's rhythms; c) a regulated and predictable environment, that enables the infant to get from it a sense of consequences for his own actions; and d) mutual satisfaction felt by both, in the company of each other.

Bowlby's hypothesis that differences in caregiving relate to differences in the attachment quality has received strong empirical support. The responsiveness of the caregiver during the first year of life has been linked to the quality of the attachment relationship assessed, both at home and at the laboratory. On the one hand, a prompt and effective response to the signals of the infant relates to a secure attachment on Strange Situation (12 months) and a lower amount of non-adaptive behaviours at home (e. g., crying and lack of exploration). On the other hand, a less sensitive care (i.e., delay in the answers to the infant's distress and less affective behaviour), in several household contexts, has been linked to insecure attachment in laboratory (Ainsworth et al., 1978; Blehar, Lieberman, Ainsworth, 1977). The caregiving characterized by emotional unavailability and chronic rejection has been linked with an insecure-avoidant attachment, while a caregiving that interferes but ignores, being therefore unreliable, is associated with an attachment insecure-resistant/ambivalent (Main, 1981). The relationship between attachment security in laboratory and the caregiver sensitivity at home has been replicated in several studies (Grossmann, Grossmann, Spangler, et al., 1985; NICHD Early Child Care Network Research, 1977, 2004). This replication is even more significative in researches that approach their methodology from the one followed by Mary Ainsworth (i.e., long observations, comparable measures and infants' ages) (Pederson, Gleason, Moran, et al., 1998; Posada, Jacobs, Carbonell, et al., 1999).

Recent studies have also confirmed the link between disorganized attachment and the presence of frightening or confused parental behaviour (Jacobvitz, Hazen, & Riggs, 1977; Jacobvitz & Hazen, 1999; Lyons-Ruth, Bronfman, & Parsons, 1999; Liotti, 2005; Schuengel, Bakermans-Kranenburg, van Ijzendoorn, et al., 1997; Schuengel, Bakermans-Kranenburg, van Ijzendoorn, 1999). Infants and children subjected to violent behaviour have a significantly greater tendency to develop insecure attachment relationships (i.e., insecure-avoidant, insecure ambivalent-resistant or disorganized) than the infants of low socioeconomic status (Carlson, Cicchetti, Burnett, et al., 1989; Egeland & Sroufe,

1981; Carlson, 1998, 1998; Crittenden, 1988; Lyons-Ruth, Repacholi, McLeod, et al., 1991; Schneider-Rosen, Braunwald, Carlson, & Cicchetti, 1985).

Infants' attachment disorganization has been also associated to experiences of parental loss, psychosocial factors as depression (Lyons-Ruth, Repacholi, McLeod, et al., 1991; Lyons-Ruth, Easterbrooks, & Cibelli, 1997; Lyons-Ruth, Yellin, Atwood, & Melnick, 2003; Radke-Yarrow, Cummings, Kuczynski, et al., 1985), and to caregiving environments with prenatal alcoholism (O'Connor, Sigman, & Brill, 1987), and drugs exposure (Rodning, Beckwith, & Howard, 1991).

### *Paternal Variables*

The studies reviewed above reported us to the attachment relationship of the infant with his mother. From an empirical point of view, several researchers have also sought to understand the role of father in the attachment development. In Table 2 we systematize the main studies made in this area. As we can see, paternal sensitivity, measured in a similar way to mother sensitivity during infant's first year, has not revealed, in a consistent way, significant associations with attachment security when assessed by the Strange Situation (see, Belsky, 1999; Grossmann, Grossmann, Fremmer-Bombik, Kindler, Scheuerer-Englisch, & Zimmerman, 2002; Van IJzendoorn & Wolff, 1997; Rosen & Rothbaum, 1993). Given the inconclusive appearance of these data, for an analysis of the infants' attachment with his father, a theoretical and empirical explanation seems necessary, in particular regarding the complementary role between attachment system and exploratory system.

**Table 2 – Empirical studies on the role of father in the infant's attachment development.**

| Reference   | Methodological Features  | Main Results   |
|---|--|--|
| Clarke-Stewart (1978)<br><br>USA                        | N = 14 children, their mothers and fathers<br><br>Structured and not structured situations at home, at the infant's 15, 20 and 30 months of age.   | 1st analysis: The mother-infant and father-infant interactions are similar with regard to the quality of interaction and emotional attachment; are different as to the amount of interaction and involvement in the game situation.<br><br>2nd analysis: over the time, the interaction direction of the family changes its focus from mother-infant to father-infant interaction.                                   |
| Lamb, Frodi, Hwang, & Frodi (1983)<br><br>Sweden        | N = 15 infants, their mothers and fathers.<br>Interactions evaluated at home, at 8 and 18 months of infants. Fathers were their primary caregivers, at least for a month.<br><br>Affiliative and attachment measures           | The degree of involvement of the fathers was not associated to the attachment quality or other affiliate measures: the infants showed clear preferences for their mothers at the expense of their parents.   |
| Fox, Kimmerly, & Schafer (1991)                         | Meta-analysis of 11 studies examining the agreement of mother/father-child attachment.   | The security in attachment with a parent was dependent on the security with the other parent (including the level of subcategories).<br>The type of attachment insecurity with a parent was dependent on the type of insecurity with the other parent.   |
| Cox, Trech, Henderson, & Margand (1992)<br><br>USA      | N = 38 infants, their mothers and fathers.<br><br>Interactions and interviews with parents at infants' 3 months<br><br>SE at infants' 12 months  | For infants and their fathers, the attachment security was previewed by the interaction quality at infants' 3 months, the fathers' attitudes, their descriptions of the child and of the father role, and the time that the father spends with the infant.<br><br>For mothers and their infants, security in attachment was previewed from the quality of interaction at 3 months and the time spent with the child. |
| Belsky (1996)<br><br>USA                                | N = 126 infants and their parents<br>9 months: Assessment Questionnaires of fathers' personality, infants' temperament, marital quality, social support, and relation between work and family<br>12 months: SE                 | Parents of secure infants were more extroverted and pleasant than the parents of insecure infants; tended to have better marriages and could better emotionally separate the context of work from the family one.  |
| van Ijzendoorn & De Wolf (1997)                         | 2 meta-analysis:<br>8 case studies, N = 546 families; association between paternal sensitivity and attachment child-father.<br>14 studies, N = 950 families; association between mother-child's and father-child's attachment. | Association between paternal sensitivity and child-father attachment, effect size combined $r [544] = .13$<br><br>Association between child-mother attachment and child-father attachment, global correlation of 0.17  |
| Steele & Steele (2005)<br><br>England                   | N = 100 mothers, fathers and their infants.<br><br>Longitudinal Study (several measures used over 12 years).   | Relationship mother-child: emotional understanding and ability to talk freely and openly about negative and positive feelings<br><br>Father-child relationship: negotiation of social interaction with the brothers and peers and the maintenance of an appropriate social and emotional behaviour   |
| Dalton III, Frick-Horbury, & Kitzmann (2006)<br><br>USA | N = 75 young adults<br><br>Retrospective reports of parental practices and current relationship quality  | While both parenting practices, regarding mothers and fathers, are related to the quality of current relationships with parents, only the paternal practices were correlated with the current romantic relationship quality.<br><br>The paternal practices are also correlated to one image of the self as capable of forming secure relationships.  |

Conceptualizing the attachment system as separate from the exploratory system, Bowlby (1969/1982) considered however their functioning as interdependent, organized around a complementary dynamic equilibrium. Mary Main defined the quality of exploration for the first time in 1973, as being associated to the child's longer periods of concentration during play situations with new toys. This ability to concentrate during exploration seems to depend on: a) her ability to organize emotions and behaviours in an interested and careful way in response to events that will arouse his curiosity; and b) the confidence in the attachment figure's availability and help, in case of need (Grossman, et al., 1999). Thus, the way the attachment figure encourages exploration and serves as a secure base or a safe haven is fundamental to the development of an attachment relationship of quality (Grossmann, Grossmann, & Zimmerman, 1999).

Grossman, Grossman and Zimmerman (1999) propose the use of the concept of "safety on the exploration" as an integrant part of the attachment security concept. The interest and enthusiasm for exploration are based in the sense of security that the attachment figure promotes: in the presence of the attachment figure, the infant exploratory activity is: free and relaxed; is compulsively oriented for the toys; or anxious and little attentive to them?

Grossmann and cols. (1999) suggest that attachment relationship with the father should be discussed based on the perspective that he works as a "trusted play companion" (Bowlby, 1982, p.378). In infancy, the father could play a useful role in supporting the child's exploration, promoting his sense of security while the exploratory system is activated, particularly in contexts of play (Grossmann et al., 2002; Grossmann & Grossmann, 2005). Even in current western families, in which both parents work outside their home and in which there is greater sharing of caregiving by the couple (Bretherton, Lambert, & Golby, 2005), the support provided by the father, when the exploratory system is activated, seems to be the primary context of interaction between the child and the father figure (Lamb, 1997; Brazelton, 1999). Thus, the paternal sensitivity in response to the child's exploratory behaviour, through emotional support and the creation of challenges appropriate to her developmental level, will promote a psychological security and self-efficacy in the sense of a secure exploration (cf., Grossmann et al., 1999; & Grossmann, Grossmann, & Kindler, 2005). Therefore, the Strange Situation, by exploring the emotional activation in a stress situation, may not be an ecologically valid methodology to assess the attachment relationship of the infant with his father (see, Grossmann et al., 1999; Belsky, 1999; Thompson, 1998).

Grossmann and cols. (2002, 2005) tested this proposition by developing an "interactive sensitivity scale" and by creating "challenges in the father's play" as an additional measure to the Strange Situation, ecologically adapted to the idiosyncrasies of the attachment relationship with the father. As expected, higher values in this measure of paternal sensitivity in play situations (and not the secure attachment pattern assessed in the Strange Situation) were associated with a higher level of paternal caregiving quality (during the first year of the infant), with attachment behaviours reported by 10 years-old children, and with the secure-autonomous attachment representation in fathers' AAI.

These studies suggest that the paternal figure helps the child to relate to the outside world (Lamb, 1975), not only contributing to explore the world of objects, but also influencing the child's ability to negotiate the social interactions with siblings or peers, maintaining her emotional and social behaviour more appropriate (Steele & Steele, 2005). It seems important to highlight that the impact of both relationships has been confirmed (though differentially) in the development of the child, and that the quality of the child's later functioning is best previewed by the combination of the attachment quality with the mother and with the father (see, Grossmann, Grossmann, & Kindler, 2005; Easterbrooks & Goldberg, 1990; Steele & Steele, 2005).

### *Infant's biological variables*

Regarding the infant's temperament, we can consider two basic positions related to its contribution to the development of individual differences in attachment. A first vision, embraced mainly by attachment authors, suggests that temperament does not affect directly the quality of attachment, once that even a difficult infant, with appropriate care, may become securely attached to the extent that there are multiple paths to arrive to this security (Sroufe, 1985). Consequently, main effects of temperament in the security of attachment are not expected. The second vision postulates that infant's temperament (especially his susceptibility to distress) directly affects the development of the attachment relationship through its impact on the mother-infant interaction (e.g., Chess & Thomas, 1982; Kagan, 1982).

The contribution of infant's biology for attachment development has been extensively studied, although no direct link has been found between the infant's initial temperament and his attachment quality (Vaughn & Bost, 1999). Temperament is related to certain aspects of the attachment: propensity to distress and cortisol reactivity, at 9 months, predict the intensity of crying during separations in Strange Situation (Gunnar, Mangelsdorf, Larson, et al., 1989; Spangler & Grossmann, 1989). However, this

distress does not predict the attachment behaviour or the facility to obtain comfort in the presence of the caregiver – the capital hallmark of security. In addition, given that security with the attachment figure is related to the dyadic interactive story, the same child can develop a secure attachment with one parent and an anxious attachment with the other (Grossmann, Grossmann, Huber, et al., 1981; Main & Weston, 1981). She can also switch from one insecure to a secure attachment with the same parent when circumstantial changes occur (Egeland & Farber, 1984).

Because our opinion coincides more with the first position presented above, we suggest that even if the temperament characteristics can be a risk factor for the caregiver-infant interaction, an infant considered difficult, does not play necessarily a deterministic disorganizing role for attachment. He may negatively reinforce the role of a caregiver with poor psycho-relational resources, leading him to adopt more disorganized answers and partially obstructing the infant's access to multiple potential paths to security. However, even if some infants can be challenging and endanger the caregiving system (Egeland & Farber, 1984), once adequate support for parents is provided, a sensitive caregiving tends to overcome the difficulties of these children (Crockenberg, 1981; Susman-Stillman, Kalkowske, & Egeland, 1996). The risk of an insecure attachment seems to result mainly from a combination of specific challenges of the infant and the needs of the caregiver (e.g., the infant's propensity for distress and a caregiving excessively rigid) (Gunnar, 2001; Mangelsdorf, Gunnar, Kestenbaum, et al., 1990).

### *Ecological Variables*

In an attempt to emphasize the role of distal factors as constituting prior conditions to attachment development, Belsky (1999a) argues that attachment theory has been, for a long period, essentially a developmental theory of micro-processes, emphasizing the everyday interactions between the attachment figure and the infant. The ecological or socio-contextual perspective pretends to underline the contextual factors that influence these micro-developmental processes. This approach transforms an independent variable of attachment theory – the interaction patterns of the caregiver and the infant – in a dependent variable, that is, something that has to be examined and understood in itself. *"This ecological or contextual view of attachment theory and research in no way violates the premises of the theory or research traditions it has spawned, rather it enriches them while preserving their strengths"* (Belsky, 1999a).

According to Bowlby, "it is evident that the particular pattern taken by any child's attachment behaviour turns partly on the initial biases that infant and mother each affects the other during the course of it. In practice, a constant problem is to determine to what extent the behaviour of each partner is a result of his or her initial bias and to what extent it has result from the influence of the other [or other contextual factors, we would ad]" (1969/1982, p.340). We talk about contextual influences because, in an attachment ecological perspective, "distal" factors – as the marital relationship quality, social support and network of attachment relationships – are though to affect the quality of care provided by the attachment figure to the infant.

Systemic studies have indeed shown the role of family interactions, which, direct or indirectly, contribute to the development of children's and other family members' security (Cowan, 1977), for instances, the father's support to the maternal figure in her caregiving or the marital conflict (Belsky, 1999; Byng-Hall, 1999). The extra familial social support has also been associated with parental sensitivity (Belsky, 1999, 2005). For example, in Belsky and Isabella's study (1998), the mothers of secure infants tended to perceive in a more favourable way their neighbours. Concerning the out-home care context it is more likely that an infant develops an insecure attachment when certain ecological conditions co-occur. Thus, in a longitudinal research with children attending kindergartens it was observed that a more insensitive maternal care associated with (1) a high amount of time spent with non-familiar caregivers or (2) a reduced quality of these care, increased the likelihood of the infant to develop an insecure attachment (Belsky, 2005). Similarly, the caregiving organisation provided to children in the kibbutzin, in Israel, where children slept outside the parents' home in a community setting, increased the likelihood of ambivalent/resistant insecurity. When the level of maternal sensitivity in this group of children was compared with the one of the mothers whose children slept at their home, there were not found any significant differences between the groups, leading to the conclusion that the highest percentage of insecurity was due to environmental contingencies (Sagi, Koren-Karie, Gini, Ziv, & Joels, 2002).

Summarizing, the attachment theorists agree that relationships between parental figures and their infant are the result of the infant's characteristics (such as temperament), of the attachment figure's characteristics, of the context's influences where these persons live, and of the synergy effects of all these factors (Goldberg, 2000). Even if we have already analysed this theoretical propositions at the end of the first chapter, we will come to this issue at the end of this one, where we will expose the empirical data evidencing the contribution of the parental subsystem (micro processes) and of the marital subsystem (macro processes), with more detail, for the intergenerational transmission of attachment.

### **2.1.3. Individual differences in infants' attachment and their implications for their subsequent psychosocial development**

Bowlby has developed the idea of an internal world, with mental processes, considered central to the influences arising from individual's story (Sroufe, 1986), where the human expectations are based on the quality and patterns of early caregiving. From a story of responsive care and an adequate dyadic emotional regulation, the child structures a sense of self-efficacy, self-regulation ability and positive expectations about interpersonal relationships. Therefore, the subject is considered active, adapting, reacting and modelling his own experiences along with this developmental process. It is in this context that individual differences in attachment security, because of their impact on the exploration mastery, emotional regulation and interpersonal closeness, have been seen as important for the child's personality and psychopathological development.

There is a wide-rang of possible reasons for this connection to exist. First, the early experiences in the caregiving relationship can influence the brain development at certain neuronal levels (Schoore, 1994; Cicchetti & Tucker, 1994). Second, the attachment relationship may serve as a foundation for future patterns of self-regulation (Sroufe, 1995; Isabella, 1993; Cassidy, 1994; Sroufe, 1979). Third, through observation and interaction with an attachment figure, infants may develop interaction behavioural skills (Elicker, Englund, & Sroufe, 1992). Fourth, the representational qualities derived from early attachment experiences may influence subsequent development (Bowlby, 1980; Carlson & Sroufe, 1995; Hinde, 1979). From early interaction experiences, infants can acquire expectations, attitudes and feelings, concerning the self and the other, which are guidelines in new relationships.

#### *Attachment and Social Adjustment*

The attachment theory states that specific areas of social adjustment (e.g., self-confidence, self-efficacy, empathy and social competence) can be influenced by the early relational experience. These domains emerge from basic relational properties which are associated with the individual's story (e.g., emotional regulation, reciprocity and behavioural expectations regarding the self and the others) (Bowlby, 1969/1982; Bowlby, 1988; Ainsworth, 1972; Ainsworth & Bell, 1974; Sroufe, 1988; Sroufe & Fleeson, 1986, 1988). Bowlby and Ainsworth proposed that from an emotionally responsive care and

from communication in the early relationship, the individual experiences the rudiments of reciprocity (Sroufe & Fleeson, 1986) and develops confidence in the ability to directly communicate his needs, a notion of self worthy of care, and the responsiveness of the social world. Experiences of emotional unavailability or inconsistency, on the opposite, restrain the child's access to communication experiences and skills, as well as the elicitation of social responses.

The results of Regensburg and Bielefeld's longitudinal studies, although involving different variables, from a conceptual point of view, present a certain convergence with the one of Minnesota. Taken together they enable a better understanding of the idiosyncrasies of mothers' and fathers' attachment relationships and their impact on the child's global development.

The children of the Regensburg sample assessed in the Strange Situation, with father and mother at 12 and 18 months, and observed at 5 years with their peers in pre-school (Suess, Sroufe & Grossmann, 1992) show, in general, that attachment quality with their mother evidenced more significant associations with other assessed variables than the attachment quality with the father. However, securely attached children to the mother and to the father had higher values in a composite index of competent functioning than the children insecure with the father and the mother. Furthermore, children who had been considered secure with the mother, at 5 years demonstrated a greater concentration in the game, and the ones assessed as secure with the father often took more initiative in playing with their companions. Both groups of secure children (to the father or to the mother) showed confidence in themselves to deal with conflict situations with peers. Children attached in a secure way to the mother were more precise and well intentioned at the social perception level than those who had an avoidant relationship with their parents. Moreover, teachers described secure children in a more positive and favourable way in the adjustment and ego control dimensions.

In the Minnesota study, differences in attachment have been related to social skills as early as the second year of life (Pastor, 1981) and throughout adolescence, despite changes in the assessment constructs and settings. In pre-school, children with secure stories were more competent to expand relational challenges, including partners' interchanges and group participation (Sroufe, 1983). The social competence at the childhood, assessed in school environment or summer camps (characterized by the coordination of sustainable personal friendships with a more organized functioning in peer group) was associated with the attachment story (Elicker, Englund, & Sroufe, 1992; Sroufe, Bennett, Englund, et al., 1993; Shulman, Elicker, & Sroufe, 1994). In adolescence, social competence classifications of teachers and summer camps' counsellors (i.e., leadership and effective functioning in informal groups of mixed

gender) favorize again the secure children when compared with the insecure subjects (Sroufe, Egeland, & Carlson, 1999; Weinfield, Ogawa, & Sroufe, 1997; Englund, Levy, & Hyson, 1997).

In the Bielefeld study, the quality of integration into peers' relationships was also related to early attachment. At age of 10, children considered secure in their relationship with the mother had at least one intimate friend, unlike the avoidant children that didn't had close friends or claimed to have many friends, without, however, being able to evoke their names. In addition, these children more often showed problems with peers, such as being exploited, teased or excluded from the group activities, than the secure children. Finally, the children's social behaviour when facing the interviewer was also significantly related to their earlier attachment quality: insecure children expressed more often bad or negative behaviours.

In the Minnesota study, associations between attachment quality in infancy and later self-confidence, empathy and social competence has been demonstrated in different socioeconomic levels. Self-confidence and efficiency were studied using the flexibility with which the children dealt with frustration and with situational changes. Children with secure stories showed to be more persistent, enthusiastic and competent in solving problems in the second year of life (Frankel & Bates, 1990; Matas; Arend, & Sroufe, 1978), more flexible in pre-school (Sroufe, 1983; Arend, Gove, & Sroufe, 1979) and more goal-oriented in infancy (Lutkenhaus, Grossmann, & Grossmann, 1985), than children with insecure stories. In contrast, a greater dependence (i.e., excessive dependence on the adult and on getting his attention at the expense of the peers relationships) has been related to attachment insecurity in preschool age (Sroufe, 1983), childhood (Urban, Carlson, Egeland, et al., 1991) and adolescence (Sroufe, Carlson, Shulman, 1993). Attachment quality in infancy has also been related to the development of empathy in several ages (i.e., interpersonal sensitivity to emotional signals and the ability to maintain self-regulation while helping the pairs) (Sroufe, 1983; Kestenbaum, Farber, & Sroufe, 1989).

Children in the Bielefeld study, observed in Strange Situation with mother and father (respectively at 12 and 18 months) were assessed again when they were 10 years old, through a long interview based on a several subjects: school, leisure, perception of the relationship with parents, friends, and personal strategies for dealing with problems (Scheuerer-Englisch, 1989). It was found that: a) the perception of parental support was not related, in longitudinal terms, with the attachment quality with the mother or the father; b) the styles of confrontation in situations that trigger fear, irritation or sadness were related to early attachment quality; c) children securely attached to the mother admitted more readily their

negative feelings and refer more often strategies oriented to relationships, such as asking for help or comfort. In contrast, children evaluated as avoidant referred strategies that included not demanding support and isolation in problematic situations.

### *Attachment and Psychopathology*

In a developmental perspective of the association attachment-psychopathology, the secondary strategies of attachment relationships are not seen as disturbances of the child but as risk factors for the emergence of subsequent pathology (Sroufe, Carlson, Levy, Egeland, 1999; Sameroff, Duggal, Weinfield, et al., 1989; Sroufe, Duggal, Weinfield, & Carlson., 2000).

Within this line of thought, a primary strategy - a secure attachment safe – also does not assure a subsequent welfare, but increases resistance to stress and promotes resilience (Pianta, Egeland, & Sroufe, 1990). The patterns of insecure attachment in infancy are seen as temporary adjustments that maximize the infant chances to maintain the attachment figure's proximity in the context of unavailability or intermittent availability of that adult. As we have said before, children who show insecure-avoidant patterns maintain the caregivers' proximity by minimizing their signs of stress and negativity, which would normally make the adult to alienate himself and reject the child (Main, 1981). For children classified as insecure-resistant, increasing the manifestation of signs of stress keeps active the attention of the caregiver intermittently responsive. Even attachment disorganisation (e.g., stereotypes; simultaneous proximity/avoidance's approaches) can allow the child to maintain proximity in contexts of frightening parental behaviour and internal conflict (Main & Hesse, 1990). Despite their adaptive character in infancy, these attachment patterns may prejudice the child development at long term, by reducing her ability to adapt their internal and external resources. Individuals with insecure stories are therefore potentially more subject to structure less supportive and easily disturbed relationships, compromising important resources against stress and psychopathology.

For individuals with a caregiving story extremely severe, chaotic and of trauma (disorganized attachment relationships), it is the integration of behavioural and emotional experience that can be compromised. It is possible that intrusive thoughts and images unpredictably interfere with their relational efforts (Carlson & Sroufe, 1995). These defensive patterns become self-perpetuated because their mental processes are no longer active in social interchange, impeding the subject to review their working models at the light of environmental feedback.

It is believed that early dysfunctional regulatory patterns predispose individuals to specific types of symptomatic behaviour and disturbance (Bowlby, 1988, 1973/1979, 1980). For individuals with insecure-avoidant stories, the symptomatic behaviour seems consistent with an attempt to minimise their attachment behaviour and their feelings (e.g., dissimulation of the emotional expression, maintenance of beliefs regarding the self as invulnerable, the others as hostile and untrusting and the relationships as idealized). The alienation, lack of empathy and hostility towards the others may predispose individuals to conduct disturbances and to styles of antisocial personality.

In individuals with insecure-resistant stories, a low tolerance to frustration, a tendency to exaggerate emotions and the maintenance of negative beliefs about the self, can lead them, in long term, to confused feelings and to more difficulties to manage anxiety. This can happen even when facing small exploratory challenges (Bowlby, 1973; Kobak & Shaver, 1987).

Both insecure patterns can help to increase individuals' vulnerability to depression (i.e., alienation and loneliness, passivity, helplessness and desperation) and to develop atypical reactions to separation and loss, which confirm expectations about the psychological unavailability of the significant attachment figures (Bowlby, 1980). Individuals with a disorganised attachment, characterized by the failure to maintain an attachment coherent strategy and by trance equivalent postures (Main & Hesse, 1990) may be at risk for a wide-range of pathological disturbances, including dissociative ones (Carlson, 1998; Lyons-Ruth, et al., 1991; Main & Morgan, 1996).

Longitudinal data (i.e., studies in pre-school, childhood and adolescence) confirm the associations between attachment relational experience and general indicators of non-adaptation. The insecure attachments, when combined with life-stress events (i.e., death, divorce, home changes) and with family demographic changes (i.e., number and order of the siblings), place small children at risk of developing behavioural problems (Erickson, Egeland, & Sroufe, 1985; Renken, Egeland, Marvinney, & Sroufe, 1989). This is especially relevant when caregiving and contextual factors remain negatively constant. Changes in these personal paths have been associated with changes in surrounding circumstances (e.g., social support). Composite measures of early experiences, which include attachment, have also predicted children's adjustment in childhood and adolescence (e.g., emotional health ratings assigned by teachers) (Sroufe, et al., 1999; Sroufe, Egeland, & Kreutzer, 1990). Concerning attachment

disorganisation, it predicts significantly adolescents' psychopathology, namely it intermediates behavioural problems and parent-child relationships' quality (Carlson, 1998).

In the Minnesota longitudinal study, specific associations between early experience, antisocial behaviour, anxiety, depression and dissociative symptoms were also observed. An initial avoidant attachment story was related to aggressiveness in childhood (Renken et al. 1989), as well as with aggressiveness and delinquency in adolescence, especially in boys. The role of the early story was also reflected in the study of adolescent's antisocial behaviour (Aguilar, Sroufe, Egeland, et al., 2000). The subjects who belonged to peer groups with antisocial behaviours (initiated either in childhood or in adolescence and which persisted throughout life) distinguished themselves by their socio-emotional story during the first 3 years of life (mono-parental families, maternal depression, life-stress events, low maternal sensitivity, insecure attachment, maltreatment and mothers' little involvement) but not by their temperament. These findings are consistent with the view that avoidant attachment, when combined with other stressful life-events and other risk factors, can promote anti-social behaviour (Greenberg, Speltz, DeKlyen, et al., 1991).

A story of ambivalent/resistant attachment experiences predicted only the anxiety control in the child's neurological state (Warren, Huston, Egeland, et al., 1997). Even if separation protest can be adaptive in a context of responsive care (infant's fast signalling and behaviour of proximity seeking), in an environment of inconsistent care, surveillance and chronic anxiety, it can establish a pattern of response which generalizes to multiple fear sources and to the development of anxiety disorders.

Longitudinal data also suggest that early psychosocial factors contribute to the development of depressive symptoms, both in childhood and adolescence (Duggal, Carlson, Sroufe, et al., 2001). The lack of emotional support to the child and her interaction with maternal depression were, in the study of Dugal and cols., the largest contributors to adolescence depression. Extracted from a composite variable of infancy, insecure attachment predicts significantly the adolescents' symptoms, even when all other factors were controlled. These findings indicate that deregulation experiences in infancy can have a lasting effect on adolescents' depressive experience, which, in turn, is associated with adult depression.

Attachment disorganisation and trauma story were theoretically articulated with dissociative symptoms' development (Main & Hesse, 1990; Putnam, 1994). It is believed that, in response to an early conflict or threat, infants with disorganized attachment stories exclude certain aspects of their mental experience,

preventing the development of a coherent organization of the self and the others in interaction. In a situation of subsequent trauma, these children tend to respond with disorganised patterns related to stimuli previously established, disturbing a normal cognitive and emotional processing (Liotti, 1992). Longitudinal data confirm the relation between attachment disorganization, trauma and subsequent dissociative symptoms (Carlson, 1998; Ogawa, Sroufe, Weinfield, et al., 1997). The disorganized attachment proved to be related with dissociation in childhood and adolescence, including in clinical assessments at 17½ years (Kiddie Schedule for Affective Disorders and Schizophrenia) and self-reports at 19 years of age (Dissociative Experiences Scale). Trauma (especially if chronic), at both ages, has been related to current dissociation in the subsequent periods of symptoms. These data suggest that chronic trauma may increase the chance of dissociation. In addition, some individuals may be especially vulnerable to dissociative patterns in face of trauma because early proto-dissociative behaviours may have been established within the caregiving relationships.

Given the scenario described above, it seems relevant to emphasize that, in general, longitudinal studies indicate that the majority of infants' attachment differences do not represent pathology or do not cause it directly. Instead, the variations in attachment patterns represent initial conditions, which play a dynamic role in the pathology development and resilience. The persistent effects of early experiences can derive from the way the environment supports these trends and this initial expectations, as well as from the impact of the early experiences in the basic neurophysiologic and emotional regulation. Both, theory and research indicate that changes, although better achieved at lower ages, remain possible throughout the individual development.

In this line of thought, security in attachment does not mean immunity against psychological distress, but it may contribute to the development of skills that help to minimize or overcome it. If there is a life story with opportunities to interact with attachment figures that functioned as safe haven and secure base and, through that, if the self, in adversity situations, is experienced as competent and worthy of others' attention and support, the appeal to helping relationships becomes a common and essential resource.

Bretherton (1990) suggests that the individuals' ability to discuss openly and consistently attachment related issues, depends on the adequacy of his working models of self and the significative others. In this sense, the way parents respond to their children communications can change their patterns of emotional expressiveness, affecting the development of transaction patterns and thus the working

models of both interaction partners. Moreover, the lack of an open communication between these partners may be associated with a restriction in the flow of attachment related information, and this not only between, but within the representational system of each one, since the material defensively excluded can not participate in the correction processes based on feedback errors (Bretherton, 1990; Jang, Smith, & Levine, 2002; Dallos, 2004).

We also know that a life story guided by trust in relationships, which allowed direct communication of emotions and that has promoted the flexibility and openness in the interpretation of information and the ability to reflect on the states of self and others is very important. It may be, in itself, a secure base for a successful psychological work in adverse situations, as well as for the resolution of loss or trauma experiences. The empirical research has shown that, in the psychotherapeutic process, families with a secure organization express a greater capacity for self-revelation and are perceived by the therapists as more involved and cooperative in the therapy's tasks and goals, when compared with those with insecure attachment organizations. Moreover, the secure attachment organization seems to be associated with more favourable results in psychotherapy (Dola, Arnhoff, & Glass, 1993; Dozier, 1990; Dozier, Cue, & Barnett, 1994; Korfmacher, Adam, Ogawa, & Egeland, 1997; Lieberman, Weston, & Pawl, 1991).

In conclusion, security of attachment is seen as a permanent emotional bond that promotes active environmental exploration, and therefore the development of autonomy. The role of the attachment figure is to provide a secure base of support and, when necessary, provide assistance without interfering with or limit the independent attempts of the infant. Affective closeness and support demanded from the parents are characteristics of a secure attachment. Likewise, this is what the empirical research has demonstrated to be important for the development of the individuals' self-esteem and social skills. In contrast, insecurity appears associated with parental relationships where feelings of trust, responsiveness and care are reduced or inconsistent. From a biological-evolutionary point of view, it is interesting to note that the avoidant and resistant patterns seem remainders of the sequence protest-despair-detachment present in the processes of loss (Heinicke & Westheimer, 1966; Robertson & Robertson, 1971). These attachment patterns, observed in the physical presence of the caregivers, can be contextual distortions of the patterns available to all children, seeming unlikely that they could represent different lines of evolution (Weinfield, Sroufe, Egeland, & Carlson, 1999). In our opinion, despite the robustness of the results obtained in the Strange Situation, the majority of the studies, conducted up to now, have mainly as protagonists the mother and the infant. In our study, as mentioned

earlier, we intent to overreach this methodological option – extending our attachment assessments to the father – that leaves some questions unanswered. More precisely, the meaning of the measures and results concerning the father-child relationship, or other attachment figures (e.g., grandparents, educators, or the Israeli Kibbutz's metaplet; cf. review DeWolff & van Ijzendoorn, 1997; Goosens & van Ijzendoorn, 1990; Solomon & George, 1999).

Starting with Mary Ainsworth's contributions to attachment theory and empirical research, we have proceeded with the discussion of attachment individual differences. The debate concerning the background conditions of attachment quality made us emphasize the ecological-contextual attachment model. In a second moment, we have examined the implications of infants' attachment quality in the first years of life for their subsequent psychosocial development. The next section will be devoted to the study of attachment in adulthood (parental and romantic attachments), a theme that precedes the review of transgenerational attachment empirical findings.

## **2.2. Empirical Study of Adult Attachment**

The empirical study of attachment organization in adulthood usually makes use of two main methodological options: one is used by developmental psychologists interested in issues such as parenting and intergenerational transmission; the other is used by social psychologists which the main interest is the study of romantic relationships. The first approach involves the use of a long clinic type interview, called Adult Attachment Interview (AAI), while the second one involves brief series of forced-choice questionnaires. The latter are designed for evaluating a large number of subjects, for they have a less time consuming format. Since the two approaches do not give us identical results (see for review Waters et al., 2002), and the more intensive approach is central to the study of the intergenerational transmission of attachment, as we will describe next, even because this was the instrument that we have chosen in our own research design. The major contributions of social scientists to the attachment study in the context of intimate romantic relationships (marital) will be considered in an afterward segment.

### 2.2.1. Individual Differences in Adult Attachment

When trying to understand why parents act towards their children according to different interaction patterns, Mary Main made possible the transition of the attachment study from the behavioural to the representational level. The author, with her students Carol George and Nancy Kaplan, questioned the parents of the Berkeley's attachment study about the memories of their experiences from childhood. They observed that their narrative pattern, in a setting of an adult interview, could be correlated with their child's Strange Situation classification. With this work, the authors developed a research instrument called Adult Attachment Interview - AAI (George, Kaplan, & Main, 1984, 1985; 1996).

The Adult Attachment Interview is an interview of clinical type, semi-structured, which includes 15 questions largely focused on the early attachment experiences, as well as their effects and influences. At the beginning of the interview, the subject is asked to choose five adjectives that best describe his relationship with each parent during childhood. Later, a person must support these adjectives with episodic memories to justify their choices. Later, it is asked what was the person used to do in childhood when she was disturbed; from what parental figure she felt more close, and why; if she ever felt rejected or threatened in any way by her parents; why she thinks their parents have acted as they did; how does the relationship with them has changed over time and how these initial experiences (including loss experiences relevant at present time) may have affected his personality and functioning as an adult (Main, 1991). The interview was described as an attempt to "surprise the unconscious" (George, et al., 1985), and its format provides ample opportunities for the narrator to contradict himself, fail to support what he says, in an early phase or in the statements that follow. The coding is based on an assessment of the coherence of the transcript and other aspects of the current "mental representation", as opposed to retrospective statements (Main, 1991)<sup>4</sup>.

The ability to integrate different elements of mental functioning, including autobiographical memory and social communication, can be seen as a fundamental process of integration, with which the mind creates consistency between their different mental states and processes (Siegel, 2001). Regardless the fact that many adults have experiences with their attachment figures, which are dissimilar between them, a single classification of a general state of the "state of mind with respect to attachment" can be identified in every interview *verbatim transcript* (Main, & Goldwyn, 1998). The term "mental representation regarding attachment" refers to a mental state of organisation of the self, temporarily

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<sup>4</sup> A more detailed description of this procedure, as well as its coding methods, will be presented in the methodology chapter of our dissertation.

stable (Main, 1995; Benoit et al., 1992; Crowell et al., 1992; Greenberg et al., 1997). It refers to a transitional state, but an auto-defining characteristic of the self, or trace, formed from the repeated experiences with the attachment figure (Siegel, 2001).

From a representational point of view, Main and cols. (1985) define "security" as the subjects' ability to access attachment relevant information and the possibility to consistently integrate their personal experiences, in terms of positive and negative aspects and in terms of their cognitive and emotional dimensions. "Insecurity" is defined by the absence of such integrative ability, which may occur along the interview at several levels: 1) by contradictions between the described episodes and assessments or opinions regarding the general relationship with the parental figure; 2) by repeated fluctuations between positive and negative points of view; 3) by the extreme negativism and devaluation of the parents, without a valid justification; 4) by the refusal or inability to remain on the theme of the interview. A careful and comprehensive examination of the interviews' text revealed four patterns of response reflecting adult individual differences in attachment representations:

Secure/Autonomous Organization (F) – Characterized by a coherent and collaborative speech, maintained during the description and assessment of attachment related experiences, whether they are described as favourable or unfavourable, distinguishing two types of security, continuous-security and earned-security (Pearson, Cohn, Cowan, & Cowan, 1994). While individuals classified in the first sub-category describe secure attachment relationships in infancy and continue to have current secure working models, the second ones report early adverse or difficult experiences with parents. Though both seem to value attachment, being objectives with regard to each experience or relationship in particular, the routes of earned-security seem to indicate that an individual, who is expected *a priori* to develop an insecure attachment, has gained access to an alternative security pathway (Hesse, 1999; Hesse, & Main, 1999).

Dismissing Organisation (D) – Positive and normalizing descriptions of parental figures that are not supported or are contradicted by specific memories, resulting in an incoherent speech. The interviews are short, often stressing memory absences, and negative experiences are underestimated as to its effects on individual's development.

Preoccupied-Enmeshed Organization (E) - Typical of individuals concerned with their relational experiences, looking angry, confused and passives, or with fear and overburdened. The interviews are long, with some irrelevant answers and vague statements or enmeshed, structuring an incoherent discourse.

Unresolved/Disorganized Organization (U) – Throughout the discussion of loss or abuse themes, the subjects showed lapses in the monitoring of reasoning or speech. For example, they can refer to one dead person as if she was still alive, they can remain silent or use a laudatory speech. This category can complement the classification of F, D, and E categories.

Subsequently, another additional category, called "can-not classify" (Hesse & Main, 1999), was described, in which individuals who may not be included in any of the referred patterns are integrated. These subjects show a mixture of unusual mental representations, and it is difficult to give them any obvious organized strategy (Hesse, 1996).

Concerning the subjects' distribution within these different categories, van Ijzendoorn and Bakermans-Kranenburg (1996), from an analysis with 33 studies using the AAI, found that:

A) In the distribution found for mothers of non-clinical samples (n=584), in the three categories system, 58% are classified as secure/autonomous, 24% as dismissing and 18% as preoccupied. Including the unresolved status (n=487), 55% as autonomous, 16% as dismissing, 9% as preoccupied and 19% as unresolved status.

B) In the distribution found for fathers, also in non-clinical samples (n=286), 62% are classified as secure/autonomous, 22% as dismissing and 16% as preoccupied. Considering the four categories there are 57% of autonomous fathers, 15% of dismissing, 11% of preoccupied and 17% with an unresolved status.

C) In samples of low socioeconomic level, mothers evidenced an over-representation of the dismissing and unresolved classifications and an under-representation of the secure/autonomous category. In the three categories system (n=411), 48% of mothers are secure/autonomous, 33% dismissing and 18% preoccupied. When considering four categories (n=350), 39% have a secure/autonomous organization, 25% a dismissing one, 8% are considered preoccupied and 28% have an unresolved status.

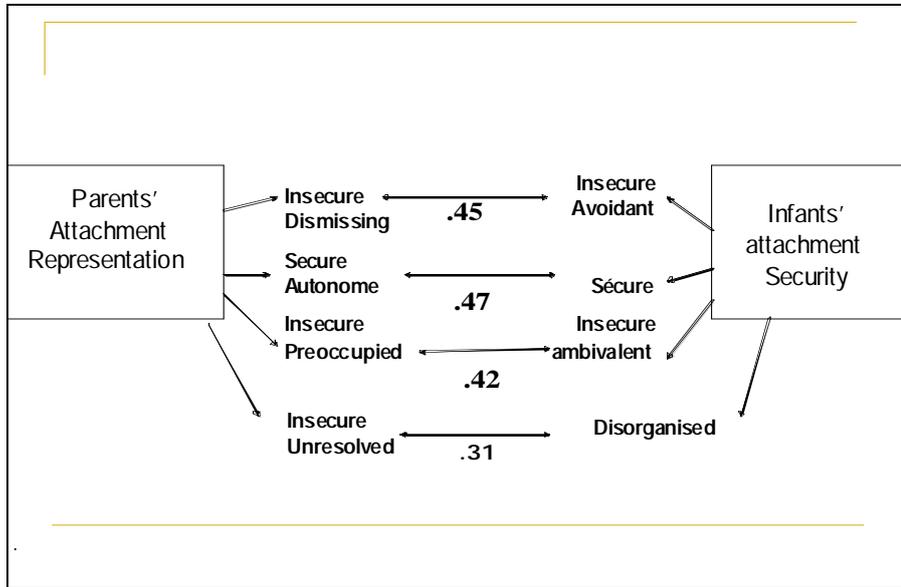
D) In non-clinical samples of adolescents and young adults without children (n=277 and 225), for a three categories classification, 56% of subjects were classified as secure/autonomous, 27% as dismissed and 17% as preoccupied. If in the four categories system, 48% were classified in the autonomous organisation, 21% in the dismissing one, 12% as preoccupied and 20% were in the unresolved category.

E) In clinical samples, integrating young people and adults with psychological disturbances and troubled parents and children: when the three organisations (n=411) were considered, an over-representation of insecure organisations (D and E), statistically very significative, was observed. An over-representation of the U and E classifications when the four attachment organisations where used (n=165) was also found.

F) Finally, the samples comprising parents of children with psychological troubles evidenced 14% of secure/autonomous parents, 41% of dismissing, and 45% of preoccupied. Samples with parents of hospitalized children for severe or chronic physical illness do not differ from control samples, suggesting that parents' insecurity is only associated with their children's emotional and behavioural problems and not with physical ones.

In the Berkeley's attachment study, the transgenerational analysis of the parents' interviews, grouped according to their children classification in the Strange Situation, was the first step towards the development of the AAI analysis method (Soares, 2002). This classification system was set up from a segment of the sample and then applied independently to the remaining 66 elements. The results showed that in 48 of those cases, the parental figure was classified in the category corresponding to the pattern that five years earlier had been attributed to their children in the Strange Situation. Overall, the parental figures with children classified as secure were classified in the autonomous category or organisation; those whose children had been classified as insecure-avoidant were classified in the dismissing category; finally, the parents with children insecure-ambivalent/resistant, were classified as preoccupied (see Figure IV). Furthermore, the authors found that adults who showed difficulties in resolving grief involving their attachment figure were, in most cases, parents of infants classified in the disorganized/disoriented group (Main et al. 1985).

**Figure IV** - Correspondences between parents' attachment representations and their Infants' attachment patterns (Van IJzendoorn & Bakermans-Kranenburg, 1997, 1999).



### 2.2.2. Empirical Study of Reciprocal Attachment in Adult Romantic Relationships

Until the decade of 80, from an empirical point of view and regardless the theoretical and clinical relevance of the attachment concept, the systematic study of attachment in adults dealt with several obstacles due to the lack of adequate assessment measures in this field. It was only with the contribution of Mary Main, and the Adult Attachment Interview development in 1985, that the empirical assessment of the attachment organization in adults become possible, allowing a change of focus in the study of attachment from the behavioural to the representational level.

After this period, psychosocial measures of attachment start to abound and the social and personality psychology researchers tried to define the domains, the relationship and the contexts related to the attachment system in adults (Bernier & Dozier, 2002). Focusing their work at the current relationships with peers, this line of research aim at contribute to an understanding of the present relational

experiences of the adult, more precisely with romantic figures or with peers. Their studies assess predominantly individuals' differences with different assessment measures. These instruments are of two kinds, the semi-structured interviews (more rare) and the self-report questionnaires (larger in number), based upon different theoretic models (Hazan & Zeifman, 1999; Harris, 2002). While the first group of researchers focuses on the base security phenomena between the partners, the second one emphasize individual differences in attachment styles (Guedeney, 2005).

In the first group, we should mention the work of Crowell and Owens (1996) in which they developed the Current Relationship Interview (CRI), a semi structured interview that investigates the representation of the attachment to the partner, using a format and method quite similar to the AAI. Kobak & Hazan (1991) created the Marital Q sort that assesses two dimensions of attachment within the current relationship: psychological trust in the "reliability" of the partner and "availability" for the partner. The scale of reliability assesses the use of the partner as a secure base and as a safe haven. The availability scale evaluates the subjects' ability to serve as a secure base and as a safe haven to their partners.

The Couple Attachment Interview (CAI) is another proposition to assess participants' style of attachment to spouse CAI (Silver & Cohn, 1992). It is a 60 to 90 minute semi-structured interview focusing on the participant's current relationship with his or her romantic partner. The CAI was developed, structurally and conceptually, after the Adult Attachment Interview (Main & Goldwyn, 1998). It includes 29 standardized questions as well as several follow-up questions or probes, all asked in a particular order.

In the same line, Lima, Soares, Vieira and Collins (2005) developed the *Intimate Relationship Interview* (IRI), a semi-structured interview aiming at assess particular issues of the intimate relationships' representations. The questions of the IRI allowed not only to examine the way the individual internally organise his experiences in the context of his intimate relationship and the way he integrates them and attributes them a meaning, but also to know what are the main relationship behavioural strategies he uses. The IRI coding is based on two levels of analyses: on the one hand, the semantic level, focused on the way the individual describes his experiences, perceptions and interpretations. On the other hand, the episodic level, which is evidenced by the individual's ability to sustain his descriptions trough specific and relevant events concerning his intimate relationship. As this instrument was used in our study, you can read a more detailed description in the next chapter.

Due to the large number of instruments belonging to the second type of measures, we systematise, on table 5, the self-report questionnaires developed by the social and personality psychologists in the romantic attachment research field.

**Table 5** - Published self-report questionnaires on adult romantic attachment (adapted with permission from Guedeney, 2005).

| <b>Instrument and author</b>  | <b>Instrument type</b>  | <b>Theoretic Field</b>  | <b>Measure Type</b>   | <b>Focus</b>  | <b>Relationship Type</b>                                       |
|---|---|---|---|---|--|
| * Adult Attachment Questionnaire<br>* Hazan & Shaver (1987)<br><br>=> Revised version | * self-report questionnaire:<br>Single Item/ Forced Choice<br>* 3 styles :<br>Secure/Dismissing /Preoccupied<br><br>=> Likert Scale for each attachment style | * Ainsworth<br><br>* Psycho cognition                         | * Categories:<br>Secure/<br>Dismissing /Preoccupied<br><br>=>Categories and dimensions  | * Attachment style  | * Romantic   |
| * Adult Attachment Scale<br>* Simpson (1990)  | * 13 items<br>* Secure/Dismissing /Preoccupied  | *Ainsworth  | * Continue  | * Attachment style  | * Romantic specific  |
| * Adult Attachment Scale<br>* Collins & Read (1990)                                   | * self-report questionnaire<br>*18 items/ 5 points Likert scale<br>*3 subscales:<br>secure/avoidant/ anxious  | *Ainsworth<br><br>* Psycho/socio cognition<br>* Developmental | *Continue /Dimensions<br>* Possible categorisation                                      | * Sentiments about close Relationships  | * Current or general Relationships (Romantic is implicit)      |
| * Reciprocal Questionnaire<br>* Bartholomew (1991)                                    | * self-report questionnaire<br>* 4 prototypes/ 7 points Likert scale<br>* style : anxious/secure /preoccupied/dismissing                                      | *Bowlby IWM<br><br>*Psycho cognition                          | * Dimensions /continue /categories /prototypes  | * Attachment Style<br>* Model of Self and others  | * All close and/or romantic relationships; general or specific |
| * Relationship Scale Questionnaire<br>* Griffin & Bartholomew (1994)                  | * self-report questionnaire<br>* 30 items/ 5 points Likert scale<br>* 4 sub scales/scales:<br>anxious/secure /preoccupied/dismissing                          | *Bowlby<br><br>*Psycho cognition                              | * Dimensions : prototypes continue<br>* Subjacent Dimensions : continue<br>* Categories | * Sentiments related to close relationships of attachment<br>* Model of Self and others | * Current Relationships in general                             |
| * Experiences in Close Relationships<br>* Brennan & Shaver (1998)                     | * self-report questionnaire<br>* Likert scale   | * Bowlby<br><br>* Psycho cognition                            | * Dimensions: Avoidance /Anxious  | * Sentiments about close Relationships of attachment                                    | * Close Relationships  |

An important issue in the domain of adult attachment self-report questionnaires is that the factorial analysis of all their items has evidenced two major dimensions underlying their structure. The labelling and conceptualization of these two dimensions vary according to the authors. There are currently two major groups. The first group identified two orthogonal individual dimensions: the "anxiety" of abandon or of lack of love and the "avoidance" of intimacy and of emotional expression (Brennan & Shaver, 1998). These dimensions correspond to the two dimensions postulated by Bartholomew (1997): the model of the self and the model of the others. The second group conceptualize these two dimensions in a different way (Stein et al, 2002; Bifulco, 2003). For them the first dimension is the one of "insecurity" (from secure to fearful) and the second, orthogonal, is the "strategy to cope" (with the feeling of insecurity).

In this context of an increasing number of adult attachment studies in the post-Main period, West and Sheldon-Keller (1987) become interested in developing one instrument firmly based on attachment theory that allowed them to capture the expression of adult attachment. Because of its particularities, we will expose it in a more detailed way. Therefore, in order to valorise the dimensional perspective of attachment relationships, as well as to assess the several components of the anxious attachment in adults, these authors developed two new self-reports: the *Reciprocal Attachment Questionnaire for Adults* and the *Avoidant Attachment Questionnaire for Adults*, that were directly inspired from the terms used by Bowlby to describe the components of attachment system (e.g., proximity seeking; separation protest; fear of losing the attachment figure; availability and use of the attachment figure). The authors also worked on the general attachment patterns, with the help of items like *compulsive caregiving*, *angry withdrawal*, *compulsive careseeking* and *compulsive self-reliance*. The *Reciprocal Attachment Questionnaire for Adults* measures the quality of attachment to the person to whom the subject considers to be more attached, no matter who she is. The attachment figure was defined as someone to whom the subjects wish to continue to share their lives with; from whom they are very close; with whom they may share their problems and intimate feelings; on whom they can depend for their well-being and to whom they can go for help (West, Sheldon & Reiffer, 1987; West & Sheldon-Keller, 1992). The second instrument was created for individuals defending that they do not have an attachment figure.

*Some polemic discussion about methodological issues*

Nevertheless the stimulant character of the proposals presented until now, according to Simpson and Rholes (1998), "*concerning how to measure and interpret the adult attachment styles represent some of the most vexing, unresolved and enigmatic issues in the field*" (p. 12).

Shaver and Mikulincer (2002) noted that the "attachment styles", captured by the self-report questionnaires, reflect mainly the nature and the *operational* character of internal working models that are most aware, accessible and open to a direct inspection. From the psychosocial researchers' perspective, mental representations are cognitive attributions. With the self-report questionnaires methodology, the mental model is assessed by responses to predefined self-inventories. These authors consider therefore that individual differences, as reported by the self-report questionnaires, must be associated with measurable unconscious processes, including the type of defensive mechanisms. The defensive processes help to understand the low overlap of measures of the psychosocial perspective with measures on states of mind (Crowell & Treboux, 1995, Crowell et al, 1999) and with the experimental situations of couple's interactions (Georges & West, 1999). In the psychosocial perspective, the emphasis is on the interpersonal component of the attachment system and not on the intra-psychic component (Crowell & Treboux, 1995; Stein et al, 1998).

Some other authors criticized this position and outline that attachment, as development, is increasingly a representational system, which is simultaneously an integrator and an integrated process. This integration acts upon cognition, and affects the type of conscious representation: it combines the primary strategy with conditional strategies (i.e., the behavioural and emotional defences). In their opinion, the self-reports, as they involve only behavioural styles, ignore this automatic level (Guedeney, 2005). Gerlma and Lujtein (1998) recall us how the different measures to assess attachment styles use different conceptualizations of adult attachment. They probably evaluate different traits of the individual's working models. The authors propose thus an integration of the two models, the one of Kim Bartholomew (most used in the psychosocial current) and the one of Mary Main (1985). For them, the content of internal working models is the model of self and the model of the other: they call this the representations' "valence" within the working model. The model of Main, behind the valence, highlights the organization of the internal working model (i.e., the coherence and the accessibility of representations within the working model). All authors note that these two currents evaluate different areas of attachment: romantic relationships, relationships with family or parental representations. The developmental perspective focuses on the general development ability of an individual to think about his

attachment relationship. The studies that have compared the AAI and the RQ-RSQ (Crowell et al, 1999, De Haas et al, 1994, Crowell et al, 1996) conclude that, although these measures are called by the same names, they are not equivalent.

As a result of this methodological questioning, a new current assessment seems to be growing. It is particularly well illustrated by the measure developed by Crowell and cols. (2002). The "Secure Base Scoring System" (SSBS) allows the study, within a couple, of the secure base conduct in a bidirectional way. Crowell and cols. (1998) have conceptualized certain criteria, which were then made operational in the form of scales to assess the skills of adults in serving for and in using the partner as a secure base. It is a 15-minute interview, on a subject of disagreement between the two partners, about their couple. It is coded in different dimensions. On the one hand, the ability to serve as a secure base (correct interpretation of the request and adequate response, in a timely manner, to the partners needs). On the other hand, the ability to use the partner as secure base (to clearly report the need for a secure base support, maintaining the signals until they are detected and being open to the partner's comforting response).

In the same line, Collins, Hennighausen, Madsen, and Roisman (1998) developed the *Couple Interaction Task* (CIT), which is a task that involves two distinct moments. First, the couple should select, from a list of eventual problems in their relationship, an issue that may be susceptible of disagreement in the dyad. Then, the couple is asked to talk about this issue and to try to resolve the problem in a satisfactory way for both partners. In a second moment, the couple is demanded to cooperate in the description of the ideal relationship or couple (decentering themselves from their own relationship), using a Q-sort methodology. The CIT is video registered and coded through an ensemble of scales organized in five dimensions: emotional tonality, process, equilibrium/balance, global assessment and caregiving.

It is though that this kind of methodology activates the attachment system, in a similar way as it happens in other procedures of representational nature, like the AAI and the CRI or the IRI. The integration of these different assessment methods – the interview and the interaction observation – may allowed to develop more comprehensively the specificities of attachment in adult life in intimate relationships. Particularly if we take into account the growing body of researches that evidence the association between the quality of the attachment representation with the partner and the quality of the observational behaviour in the intimate relationship context (Roisman et al., 2001; Crowell et al., 2002).

## *Empirical Findings*

In the context of the study of attachment in the romantic relationships, researchers have been using the several measures presented above. In what follows, we will expose the more relevant empirical findings in this field.

### *A) Positive beliefs about the marital relationships*

Hazan and Shaver (1987), in their pioneering study on attachment and romantic relationships, found that secure individuals characterized their marital relationship as most positive, reliable and supportive than the insecure subjects.

### *B) Formation of more stable marital relationships*

In the same study (Hazan & Shaver, 1987), the data also pointed to the greater stability in relationships between two secure persons. These findings were then corroborated by the study of Kirkpatrick and Davis (1994) where, through the following of 300 dating couples, to over 3 years, was shown that secure men and women had more tendency to develop a stable and satisfactory relationship. In another longitudinal research, Kirkpatrick and Hazan (1992) found that those who had been identified, 4 years earlier, as having a secure attachment, were still married in a higher percentage.

### *C) Satisfaction in dating relationships and marriage*

These studies indicate that individuals perceived has secures have higher levels of satisfaction in their dating relationships (Cozzarelli, Hoekstra, & Bylsma, 2000; Simpson, 1990) as well as in their marriages (e.g., Davila, Bradbury, & Fincham, 1998; Feeney, 1994; Feeney, 1999; Feeney, Noller, & Callan, 1994; Kobak & Hazan, 1992; Mikulincer, Horesh, Levy-Shiff, Manovich, Shalev, 1998; Owens, 1993).

### *D) High levels of intimacy, commitment and emotional involvement in relationships*

Simpson, Rholes and Nelligan (1992) submitted university couples to a stress task. Women categorized as secure in their romantic relationship perceived greater emotional support and greater acceptance of physical contact from their partner than insecure women did. One possible reason for this association is the fact that secure men – which in other studies have disproportionably showed to be more frequently partners of secure women (van Ijzendoorn & Bakermans-Kranenburg, 1996) provide more emotional support than insecure men provide, make more comments of confidence, and show greater concern for

the welfare of their partner. A greater relational commitment and stronger feelings of love for the partner also characterize the romantic relations of secure individuals (Owens, 1993).

*E) Standards of communication and positive interaction in dating and married couples*

We highlight here the studies of interactional observation, during problem-solving and self-disclosure tasks, that point out the greater involvement of secure men in positive and more supportive interactions with their wives, when compared with insecure men (Cohn, Cowan, & Pearson, 1992; Ewing & Pratt, 1995; Kobak & Hazan, 1992). In the same sense of these observational data, Cohn and cols. (1992), as well as Senchak and Leonard (1992) found that the conflict and the negative affect were more common in couples where both partners were insecure. O'Connor, Pan, Treboux, Waters, Crowell, Teti, & Posada (1995) found that secure women experience less conflict with their husbands on matters related to the time spent together and the sharing of household tasks – two areas of frequent marital conflict – than insecure women. Perhaps even more eloquent is the discovery of Pistole (1989) that secure individuals tended to engage in common strategies – as opposed to the self or hetero-centred strategies of the insecure subjects – for conflict management in their romantic relationships. Fraley and cols. (1998) on their turn argue that secure couples are more likely to use romantic partners as a secure base from which they explore the world. Finally, Rholes and Simpson (1998) found that secure adults seek more support from their partners when they are in distress than insecure ones. They are also more able to play a secure base role.

*F) Romantic attachment and psychosocial adaptation*

From the studies of Hazan and Shaver (1993), the ones that evidence the association between a secure attachment style and a certain number of life events, seem of special interest. These include a decrease in the propensity for divorce, continuation of good relationships with their parents, good relationships with colleagues, appropriate patterns of self-exposure, a relationship with God perceived as safe, and fewer psychosomatic symptoms. In contrast, insecure styles (avoidant and ambivalent), were associated with dissatisfaction in relationships, difficult relations with parents, inappropriate patterns of self-exposure, more solitude, and more psychosomatic symptoms. Couples who have broken their attachment relationship (*e.g.*, a divorce after several years of marriage) also have statistically more psychiatric disorders, somatic diseases, accidents and addiction, than the general population (Mikulincer, 2001). In addition, the continuity on attachment relationships, since it offers emotional and affective support, allows the maintenance of a basic security sense in each other with repercussions at the exploratory level. Work and social investment in adulthood, for instances, are

wealthier thanks to the balance between the attachment system and the exploratory system, even at older ages (Hazan & Shaver, 1990).

In general, we can say that the literature is clear about the effects of the attachment organisation of romantic partners on the quality of their relationship: a better relationship quality is perceived by secure subjects and by those who have partners securely attached. From our analysis, we may synthesise three main explanations for this association. First, the emotional consequences of the secure interactions with significant others would lead to a positive orientation towards the search *to be together*, organizing the objectives of interaction around patterns of intimacy and proximity, which, in turn, encourage the subjects' involvement in spousal relationships of long term. Second, the positive mental representations of self and others, that characterize the sense of security, would allow the development of a cognitive-affective organization for conflict resolution and hence to the maintenance of satisfactory marital relationships. Finally, the sense of security of attachment facilitates the psychological satisfaction of other motivational systems (e.g., exploration, affiliation, caregiving) within the relationship, which would lead to an increase in marital satisfaction (Mikulincer, Florian, Cowan, & Cowan, 2002).

### **2.3. Empirical Study of Intergenerational Transmission of Attachment**

The classifications based on the Strange Situation and the Adult Attachment Interview, from a conceptual point of view, have much in common. Attachment among children manifests itself in attachment behaviours (i.e., proximity seeking, contact maintenance, contact avoidance or resistance) and among adults in their verbal representations. More specifically, with regard to the balance between exploration and attachment, avoidant children minimize or deactivate attachment behaviour, while ambivalently attached ones maximize or extend attachment behaviour at the expense of exploration. Secure children evidence a balance between attachment behaviour (e.g., search for comfort), immediately after reunion, and return to exploration, after some time.

In an equivalent way, AAI classifications, based on verbal communications about emotions in the context of attachment relationships, show us that secure-autonomous individuals are characterised by an open and not biased discussion on the attachment relationships, the dismissing ones minimize the influence of attachment experiences in their personalities, and the preoccupied-enmeshed subjects are still absorbed by their childhood experiences or current relationships with their parents (Belsky, 2005).

As we have seen, when analysing attachment transmission mechanisms between generations, it is assumed that the association between the child's and the parent's attachment is mediated by the parental quality, in such a way that the parent attachment mental representation shapes the parenting practices. Before developing this issue, we present a systematization of the studies that have been conducted under the attachment intergenerational approach, according to the methodological stage that characterized the research field on this domain.

An initial set of works (Morris, 1980, 1981; Ricks, 1983, 1984, 1985), methodologically characterized by the use of questionnaires, or inventory scales for assessing attachment, has showed an association between infant's relationship with the parental figures and the marital relationship quality of his parents. Since these assessment measures were made before the AAI development, they are based on individual's autobiographical memory and, consequently, they have the typical limitations of the self-report measures, once the measurement of the subjects' repression or idealization phenomena is not possible (van Ijzendoorn, & Bakermans-Kranenburg, 1997). Following this initial phase, the introduction of the AAI in this research domain has represented a change on its focus: we move from the childhood experiences descriptions to assess their current mental representations, as well as from the autobiographical memories content for the way the "autobiography" is presented (idem). Table 3 presents the set of studies related to the attachment agreement between generations that took place immediately after the development of the Adult Attachment Interview.

**Table 3 – Attachment Intergenerational Agreement Studies, after the AAI development**

| Reference   | Methodological Features   | Main Results   |
|---|---|--|
| Main, Cassidy, & Kaplan (1985)<br>USA   | N=102 children, their mothers and fathers<br>Medium socio-economic level<br>SE with mother/father at 12/18 months of age<br>Parents' AAI when the children have 6 years of age  | Very significant association between mother and child security<br>Significant association between father and child security, but at a lower level  |
| Main & Goldwin (1998)<br>USA  | Idem<br>Results analyses based on the 3 patterns classification (SS: A,B ou C; AAI: D,F ou E).  | Correspondence of about 75% for mothers, and about 69% for fathers, and their infants  |
| Main & Hesse (1990)<br>USA  | Analyse of the relation between adult attachment representation and the process of greed of the attachment figure.  | Mothers' unresolved status has a strong predictor of infants' disorganisation  |
| Ainsworth & Eichberg (1991)<br>USA  | N=45 infants and their mothers<br>SE at infants' 12 months<br>Parents' AAI at 14 and 18 months of the infants<br>Analyse of the relation between adult attachment representation and the process of greed of the attachment figure. | Mothers' unresolved status has a strong predictor of infants' disorganisation  |
| Grossman, Fremmer-Bombik, Rudolph, & Grossman (1988)<br>Germany                               | Two samples: Bielefeld and Regensburg<br>SE with mother/father at infants' 12/18 months of age<br>Parents' AAI when the children have 6 years of age <sup>5</sup>   | Both samples evidenced an intergenerational agreement (secure/insecure) of 85%   |
| van Ijzendoorn, Kranenburg, Zwart-Woudstra, van Busschbach, & Lambermon (1991)<br>Netherlands | SE at infants' 12/18 months<br>Parents' AAI at children's 3 years of age<br>Analyse of the relation between adult attachment representation and the process of greed of the attachment figure.                                      | Mother-infant intergenerational agreement (secure/insecure) of 77%<br>Father-infant intergenerational agreement (secure/insecure) of 627%, non significant<br>At the level of the three patterns, it was not found a significant agreement |

<sup>5</sup> In almost all these researches, the AAI has been analyzed by the classification method of Main and Goldwin (1984-1998). We wish to underline that, in this study, the interviews to parental figures were not analyzed in the same way, but rather by the method developed specifically to quote this longitudinal study, called Regensburg method (Femmer-Bombik, 1987; Femmer-Bombik, Rudolph, Veit, Schwarz, & Schwarzmeier, 1989; cf. Soares (1996) for a detailed description of the method).

In the studies presented so far, the parent's attachment representation was assessed several years after their children's behavioural attachment organization was assessed. Given the retrospective nature of these studies, the possibility that the caregivers' attachment organization (which is the "unconscious focus" of the parental figure during the attachment interview) may have been influenced by the parental involvement with their child, should be considered (Fonagy, Steele, & Steele, 1991; Hesse, 1999). We can only refer to attachment intergenerational transmission when the attachment figure's organization is evaluated before the birth of the child, for if the assessment is done later, the words to be used should be intergenerational agreement (Soares, 1996), as in the case of our own study. The research phase that we systematize in Table 4 is characterized by the transition to a prospective assessment nature, where the measurement of the parents' attachment representation runs now in a pre-natal period.

**Table 4 – Attachment Intergenerational Transmission studies of prospective nature**

| Reference                                 | Methodological Features  | Main Results  |
|---|--|---|
| Fonagy, Steele & Steele (1991)<br>England | N=96 infants their mothers (primipares) and fathers. .<br>Medium to high socio-economic level<br>SE at infants' 12/18 Months of age<br>Parents' AAI during pregnancy | Intergenerational agreement of 75% (secure-insecure), and of 66% for the three patterns, for mothers and of 71% for fathers<br><br>Other significant statistic associations: the mothers F or E remind their own relationship with their mothers as more affective and less rejecting; higher level of idealization concerning the parental figures and difficulty in remind past stories in mothers D; and more general coherence of discourse related to attachment experiences in secure mothers than in insecure ones |
| Radojevic (1994)<br>Australia             | N=44 infants, their mothers and fathers, including unresolved status.<br>SE at infants' 12/15 months<br>Parents' AAI during pregnancy                                | Father-infant intergenerational agreement of 77%<br><br>When fathers have an unresolved status 60% of their infants have a disorganised attachment  |

The use of high risk samples was another important step in the development of this type of research, and its relevance for an integration of the unresolved organization in their analyses should be referred (Table 5).

**Table 5 – Attachment Intergenerational Transmission studies, from high risk samples**

| Reference                    | Methodological Features  | Main Results   |
|------------------------------|--|--|
| Ward & Carlson (1995)<br>USA | N=74 infants, their mothers (adolescents, urban, mostly single)<br>High risk socio-economic level<br>1st analyse: SE at infants'15 months and mothers' AAI during pregnancy<br>2nd analyse: SE at infants' 12 months and mothers' AAI at 18 months | 1st analyse: Agreement of 78% for the secure-insecure dimension and of 68% for the four attachment patterns<br>2nd analyse: agreement of 83% for the four patterns |
| Levine & Tuber (1991)<br>USA | N=??? infants, their adolescent mothers<br>High risk socio-economic level<br>SE at infants'15 months and mothers' AAI during pregnancy   | Agreement of 83% for the secure-insecure dimension and of 62% for the four attachment patterns<br>All secure mothers have secure infants                           |

In order to determine whether and what extent the attachment can be transmitted across generations, van Ijzendoorn, in 1995, conducted a meta-analysis of the research in which the children's and their parents' attachment have been assessed (based on 18 samples of 14 studies), comprising a total of 854 dyads. Although they focused, mostly, on mother-infant dyads, some of these studies also evaluated parents. It should also be noted that at least one was directed to adolescent mothers, while the others assessed economically disadvantaged families. The time in which they conducted the adults' attachment representations assessment also varied in the different studies: while some made their assessment some months before the infant is born, the majority took place after his/her birth.

As a first step in the exploration of this prediction, van Ijzendoorn (1995) tested whether the security/insecurity of parental attachment was related to the same attachment dimension in the children, regardless the insecurity subtype manifested. The relationship between adults' and children's attachment proved to be very strong, with the parent's attachment contributing to 22% of the infant's attachment variance (or 35% based on a bysserial correlation). Analysis of follow-up revealed that the attachment transgenerational association was stronger for mothers (effect size  $d=1.14$ ,  $r=.50$ ) than for fathers ( $d=.80$ ,  $r=.37$ ), although it was not affected by variations in the other characteristics of the studies (e.g., if the measurement regarding the adult had occurred before, during or after the infant's assessment; age of the child).

A second step in his meta-analysis was centred in the avoidant/resistant attachment classification. The authors' have found that parent's dismissing attachment predicted the child's avoidant attachment ( $d=1.02$ ,  $r=.45$ ). Again, the association through the generations varied, with dismissing mothers' more strongly associated with avoidance in the child ( $d=1.17$ ,  $r=.50$ ) than dismissing fathers ( $d=.68$ ,  $r=.32$ ). When the meta-analysis focused on the association preoccupied/resistant, a consistent association emerged evidencing that preoccupied parents have a disproportionately greater probability of having children with a resistant attachment ( $d=.93$ ,  $r=.42$ ). Finally, a single analysis, comprising 661 cases, based on the three attachment patterns, was performed and it has been found that parents' autonomous attachment organizations, dismissed and preoccupied were related with, respectively, the secure, avoidant and resistant classifications of their children, in 70% of the cases. Following this meta-analysis, evidencing so important results in this research topic, other investigations took place. Table 6 presents some of them, with emphasis on the pioneering study of Isabel Soares (1996), which has compared the attachment representations of an adolescent population with their mothers in the North of Portugal.

**Table 6 – Attachment Intergenerational Transmission studies, post meta-analyse**

| Reference  | Methodological Features  | Main Results   |
|--|--|--|
| Ammaniti, Speranza & Candelori (1996)<br>Italy             | N=20 infants and their mothers<br>SE at infants' 12 months<br>Mothers' AAI in pregnancy  | Agreement of 85% in the secure-insecure dimension  |
| Soares (1996)<br>Portugal                                  | N=60 adolescents and their mothers<br>Medium high socio-economic level<br>Adolescents and their mothers AAI <sup>6</sup>   | Agreement of 72% in the secure-insecure dimension  |
| Pederson, Gleason, Moran, & Bento (1998)<br>Canada         | N=60 infants and their mothers<br>SE at infants' 12 months<br>Mothers' AAI in pregnancy  | Agreement of 80% in the secure-insecure dimension  |
| Gloger-Tippelt & Gomille (1999)<br>Germany                 | N=28 infants and their mothers<br>SE at infants' 12 months<br>Mothers' AAI in pregnancy  | Agreement of 82% in the secure-insecure dimension  |
| Gloger Tippelt, Gomille, Koenig & Vetter (2002)<br>Germany | N=28 infants and their mothers<br>SE at infants' 12 months<br><i>Attachment Story Procedure</i> <sup>7</sup> at children's 6 years of age<br>Mothers' AAI at children's 5 years of age | Analyse of the Configural Frequency:<br>Agreement between the mothers' AAI and the children's SS and the children attachments' representations at 6 years of age |

A separate set of researches have highlighted the role of the third generation - the grandparents - in the process of attachment transmission. The study of Benoit and Parker (1994) was a pioneer project in the evaluation of intergenerational attachment in three generations. In a sample of medium-high socioeconomic level, children were assessed in Strange Situation at 12 months, and the AAI was administered to their mothers and grandmothers in a pre-natal phase. It was found 75% of correlation between mothers' attachment representations and the ones of grandmothers, with a higher tendency for the secure grandmothers to have secure adult daughters. A correlation of 81% was also observed, when the three patterns were considered, between mothers' and their children's attachment assessments, and of 68% for the four patterns (D, F, E and unresolved). This study supported in a pioneer way the Bowlby's (1969/1982) theoretical premise according to which the internal working models tend to cross over generations. When the three categories of adult and child attachment were examined in three generations, 65% from 77 triads' grandmother-mother-child had a correspondence in their attachment classifications, although the mediator role of mothers' attachment had also been

<sup>6</sup> In this study, the AAI were analyzed and coded according to the Regensburg method (Frammer-Bombik et al., (1989).

<sup>7</sup> The Story Attachment Procedure is a method of story completion in a representation with a doll.

identified. In the same sense, Besser and Priel (2005), in a 100 female triads study, found intergenerational correlation to attachment style, highlighting once again the mediator role of the second-generation (mothers) attachment on the association between the third (grandparents) and first (children) ones. It is in this context that Kretchmar and his colleagues (Jacobitz, Morgan, Kretchmar, & Morgan, 1991; Kretchmar, 1995; Kretchmar & Jacobitz, 2002) suggest that relational strategies, experienced and internalized by the mothers, regarding their caregivers, seem to recreate their attachment experiences with their own children.

The role of social support provided by maternal grandmothers has been the main study object covered in researches seeking to better understand how this transmission takes place. Tarabulsky, Bernier, Provost, and cols. (2005) reported that, in low risk groups, the family of origin support often accompanies the transition to parenthood. It has been demonstrated that it is associated with the maternal welfare (Cown & Cown, 2003), the better maternal sensitivity, and to the child development, including the attachment security (Crockenberg, 1981). Moreover, for many teenage mothers the family of origin members, in particular maternal grandmothers, are seen as the primary source of support during transition to parenthood and during the childhood of their children. In this case, however, the effects of this aid remain unclear. While some studies have shown positive effects of the adolescents' family of origin support with regard to maternal welfare, maternal sensitivity and/or child socio-emotional development (Coletta, 1981; Cutrona & Russell, 1990; Unger & Wandersman, 1985), others found no consistent associations (Whitman, et al, 2001). In contrast, another set of research documents an inverse relation, with higher levels of association between the support provided by the family of origin and maternal problems (Spieker & Bensley, 1994; Way & Leadebeater, 1999). Spieker and Bensley (1994) suggest that some of the variations in these results can be related to the children's age, the adolescents' live conditions and the paternal involvement in the relationship between the adolescent mothers and their children. As Pohelmann (2003) underlines, the support of the maternal grandmother to the mother appears to be an important factor in the ecological context of the mother-infant dyad, but its effects may vary in magnitude and direction from study to study, being fundamental the development of more research on this thematic.

Summarizing, the results of van Ijzendoorn's meta-analysis (1995), together with the other presented studies, provided clear evidence on the existence of an attachment concordance between the parents and their children and thus of the attachment intergenerational transmission in western societies. What remains unclear is the extent to which the described findings are replicable in different societies. This is so because, as the correlation found is far from being perfect, it would be inappropriate to conclude that attachment intergenerational transmission is something inevitable. Nevertheless, these findings remain unavoidable, not only because they are consistent with the theory, but also because the attachment assessment methods in adults and children are very different. In addressing the problem of attachment transmission in the course of generations, we should highlight that most of the stated studies however were based in correlational analyses, which precludes any kind of causal inference of their results. In an attempt to overcome this limitation, we shall focus next, on the understanding of the possible procedural mechanisms that contribute to this transmission or to its absence.

An important first step in understanding the mechanisms of transmission relates to the possibility that the agreement found could be caused by genetic inheritance reasons, expressed as parenting characteristics (Belsky, 2005). In a first test to attachment heredity, Ricciuti (1992) has combined data from three twins samples. Comparing the concordance on the attachment security between monozygotic and heterozygotic the author has conclude that attachment security was not hereditarily demonstrable, at least in the case of infants with ages between 12 and 22 months of age. More recently, O'Connor and Croft (2001) explored the genetic modelling in attachment behaviour through data collected with 110 pairs of identical and fraternal twins in the Strange Situation, in preschool age, and found a modest genetic influence, but a substantial environmental influence. The largest comprehensive study of attachment genetic inheritance, developed to date, provided more evidence of the heavier weight of the environmental role in modelling attachment security. When Bokhorst and cols. (2004) analyzed data from more than 150 pairs of twins assessed in the Strange Situation, they found that hereditary didn't performed a crucial role in the children attachment security/insecurity with their mothers, even when they showed high levels of avoidance or resistance. In their study 52% of the variance in attachment security was explained by shared environmental characteristics influence and 48% by single environmental influences and measure error.

The exclusion of this possibility opens the way to deepen the developmental mechanisms that may explain how attachment in the parent, assessed by the AAI, has been related to the child attachment with that parental figure, measured by Strange Situation. The parents' sensitive responsiveness has been the classic mediator studied by the researchers in this field. Given the inability to explain this process through this single variable other proposals have emerged, using the construct of mind-mindedness and self-reflexive function, as well as the importance of communication and marital quality to this process. We shall see below how these variables have been studied.

First we will analyse the role of parents' responsive sensitivity, delineating two analyse segments: a) the adult attachment mental representation as a predictor of their parental practices; and b) the sensitive and responsive parental practices as predictors of children's secure attachment.

The hypothesis that the adults' attachment mental representation predicts their parental practices was tested in a meta-analysis by Van IJzendoorn (1995), based on 10 studies, comprising 389 parent-child dyads. Consistently with the theoretical predictions, the author found that parents' attachment contributed to about 12% of the variation in parental responsiveness: secure-autonomous parents showed greater parental responsiveness, sensitivity and ability to support the interaction with their children than parents classified as dismissed or preoccupied.

The theoretical proposition that parental sensitive responsive practices predict the children secure attachment, while severe, intrusive, non-responsive or inconsistently responsive caregiving promote insecurity, has been tested and supported by a meta-analysis of 66 studies, with more than 4000 cases, by De Wolff and Van IJzendoorn (1997). When the analysis was reduced to 21 studies (over 1000 mother-child dyads evaluated in Strange Situation; maternal sensitivity assessed concurrently or prior to the Strange Situation), an effect "moderately strong" of maternal sensitivity on the child attachment security was found ( $r=.24$ )<sup>8</sup>. Furthermore, a subsequent meta-analysis with a smaller number of studies ( $n=8$ ), comprising more than 500 cases, revealed an association between parenting and the child's attachment at, both mother-child and father-child dyadic levels, though less strong in the last case (Van IJzendoorn & De Wolff 1997). The combination of these two meta-analyses allowed to confirm the hypothesis that parents' sensitive responsiveness is a mediator variable of the association between parent's and child's attachment security.

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<sup>8</sup> The effects of maternal practices in the attachment security did not vary upon the way maternal behaviour of the interaction was measured.

The role of maternal sensitivity in the child's security development was also evidenced in the Bakermans-Kranenburg, Van IJzendoorn and Juffer's meta-analysis (2003), concerning the intervention programs designed to promote attachment security. Similarly, the Van den Boom's study (1994) showed that intervention to increase maternal responsiveness to the child's positive and negative signals had success in promoting maternal sensitivity and in increasing the child's attachment security. At 12 months old, in the Strange Situation, children of the experimental group were classified as secure in a percentage nearly three times superior than those of the control group (62% versus 22%).

As mentioned earlier, despite having verified, in his meta-analysis, that maternal sensitivity mediated the relationship between the parent and the child attachment security, Van IJzendoorn (1995) stressed the relatively modest effect of this combination (24 %), remaining inexplicable the complete process of intergenerational transmission (Van IJzendoorn & Bakermans-Kranenburg, 1997). This transmission gap seems even bigger after the findings showing that in attachment transmission across generations, the genetic contribution to this process is quite limited. For this reason, Belsky (2005) proposes the inclusion of two additional processes that may contribute to fulfil a portion of this transmission gap: the mind-mindedness (Meins, Fernyhough, Fradley, & Tuckey, 2001) and the marital quality or the family's emotional atmosphere, to which we would add the self-reflexive function of Fonagy (1993). The first and last ones are examples of proximal factors, which have been investigated as part of the set of cognitive mediators intrinsic to parenting. The marital and familial qualities are processes with a distal or contextual nature, which Belsky (2005) proposes as determinants of parental practices. A growing set of recent research, which we will expose in the next section, show that both mother and father are more likely to provide a parental care more sensitive, responsive and developmentally appropriate when their marriages are more harmonious and satisfying (see for review, Belsky & Jaffee, 2004). Indeed the marital quality appears to affect the child's security by of two different ways: in a direct way, via emotional atmosphere and in an indirect way, via parenting practices.

## **2.4. Transmission GAP and Marital Reciprocal Attachment**

The role of the marital relationship on the development of the infant reports us to the Bowlby's assertion: "by providing love and companionship [the husband] supports the mother emotionally and help her to maintain an harmonious mood in the atmosphere of which the infant thrives" (1953, p.13). In these lines, the author argues that marital quality contributes indirectly to the quality of attachment between the infant and the caregiver. As we have seen in the first chapter, an important aspect of the marital relationship for the quality of the attachment between the infant and his parents seems associated with the adults' perception of the emotional support of their partners, namely the extent to which they serve as a secure base. To what extent the couple's secure base is able to reflect and reshape the parents' attachment representations with their own attachment figures, or their parental practices, and in that, becoming a vehicle for the interruption of the attachment insecurity cycles, is another relevant aspect to be considered.

The specific empirical research that involves marital conflict, marital quality, or broader dimensions of marital emotional climate and the intergenerational transmission of the family attachments is until now very rare. Nevertheless, this association may be indirectly supported if we take into account the associations found between marital quality and: a) adult attachment, b) the child's attachment to his parents and c) the parenting qualities predictors of attachment security (i.e., responsive sensitivity) (Belsky, 2005). Empirical evidences concerning the first point are found in the work of Paley, Cox, Harter, and Margand (2002). There we see an association between secure internal working models (measured by the AAI) and a better functioning in marriage (or romantic relationships in general). More precisely, the authors found that insecure husbands and the wives of insecure husbands, in marriages of high negative escalation marriages reported, across the two year postnatal period, greater declines in positive marital perceptions or less positive marital perceptions overall, than secure husbands and wives of secure husbands in similarly high conflict marriages. Such differences between secure and insecure husbands (and their wives) were not apparent in low negative escalation marriages.

The work of Isabella and Belsky (1985), showing that the deterioration of marriage, during the first year, is related to the development of an insecure mother-infant attachment, provided some of the first data supporting the second point. Concerning the third point, there is a growing body of research showing that both mother and father are more likely to provide a more sensitive, responsive and developmental appropriate caregiving, when their marriages are more harmonious and satisfying (Belsky & Jaffee,

2004). According to Miljkowitch (2001), the attachment relationship established between the two sexual partners help to maintain as long as possible the parental couple and to better perform the parental function by assuming the joint investment needed to early care and then to the whole of the education until the end of adolescence. Lundy (2002) also found that marital dissatisfaction adversely affects the quality of paternity and therefore the infant's attachment security to the father.

For the study of attachment transgenerational transmission, the results of three particular studies seem most interesting. Isabella (1994) illustrated the indirect effects of marital quality on the relation of the infant to the mother. In her study, the marital quality during pregnancy predicted the satisfaction with the role of mother at infant's 4 months, which, in turn, predicted maternal sensitivity (five months later) and the quality of her relationship with the child. In another research (Das Eiden, Teti, & Corns, 1995), the effects of marital quality were moderated by the mother's attachment organisation. The perception of the mothers about their marital quality was related to the children attachment security, but only for the mothers classified as insecure in the AAI. Some authors (Berlin & Cassidy, 1999) consider the hypothesis that, in secure mothers, their attachment representation guides the marital quality, the parental behaviour and the sensitive relation with the infant, whereas in insecure mothers, their attachment representation can be more flexible and open to the influences of the marital relationship.

Thus, the relationships that contribute to the association between the infant and the attachment figure may have different parental influences for different people, with different repercussions on the transgenerational process. When considering this body of research, a transmission mechanism involving adult's attachment as being influent on marital quality and therefore on child's attachment, gains pertinence as a possible process by which security can be transmitted from one generation the another, contributing to the fulfilment of a portion of the transmission gap (Belsky, 2005).

In our opinion, the most eloquent and robust study about attachment transmission and marital quality was developed by Cowan, and Cowan (2005), at the University of California, Berkeley. The authors developed a 10-year's intervention program with families from 28 cities and towns in the San Francisco Bay Area of California. These are working-class and middle-class families (15% below the median income); 85% are European American and 15% are African American, Asian American or of Latin origin. The couples are married or living together and co-parenting the child.

The authors focused their assessments and interventions in several domains, namely: a) parents as individuals (to increase coping with internal stressors and meet individual needs); b) the couple relationship (to increase collaborative problem-solving and decrease couple conflict); c) parent-child relationships (to increase fathers' involvement and both parents' age-appropriate parenting strategies); d) family of origin (to help parents to break negative intergenerational cycles of harsh treatment and abuse); e) stressors and supports (to develop strategies for coping with external stressors and increase supports from family, friends, and social services).

The authors found 10-year effects of one or both variations of the intervention (parenting or couple intervention focus) in every domain tested (i.e., parents' depressive symptoms, marital quality, observed parenting style, child/adolescent adaptation). Nevertheless, the effects of the couple focus intervention were always equal or superior than the effects of the parenting focus intervention.

Cowan and Cowan (2005) concluded then that transmission of adaptation across generations is not simply a matter of a working model of an adult attachment that will influence his parenting behaviour and, consequently, his children. What they found in their correlations analysis was that both adult attachment security and couple attachment security are correlated with observed couple interaction and parenting behaviour. They also found that husbands', but not wives' secure working models of attachment can buffer the negative impact of wives' insecure models. This study have thus showed that the couple is part of the transmission system in three ways: 1) each parent contributes to the dynamics of the family system; 2) couple attachment as well as adult attachment plays a role in family relationships; 3) one partner (especially father) can provide a buffer that protects the child and family against the negative impact of the other partner's insecure working models of attachment.

To conclude, several studies have indeed found a positive association between marital quality and the quality of the relationship with the infant (e.g., Belsky & Isabella, 1988; Howes & Markman, 1989; Owen & Cox, 1997; Stevenson-Hinde & Shouldice, 1995; Sims, Hans, & Cox, 1996; Teti, Nakagawa, Das, & Wirth, 1991). However, in some other researches, these relations were not significant (e.g., Belsky, 1996; Das Eiden & Leonard, 1996). We believe that these results suggest the limitations of exploring only the direct effects of marital quality on the attachment security (Belsky, 1999; Belsky et al., 1995). These multiple factors operate not only directly but have also indirect influences.

It is in this context that the empirical research points out that distal factors such as marital relationship, act interactively to predict the attachment of the infant-attachment figure (Belsky, 1999; Belsky & Isabella, 1988). When we consider associations between marital relationship and attachment it may be necessary to take into account the mediator processes (e.g., from the parental behaviour) and the moderators processes (e.g., interactions with the mother attachment representations) (Belsky (1999). This is so because, as Bronfenbrenner (1979) said, in the ecology of human development - and making a parallel with the etiology of the (in) security of attachment in the infant - *"the main effects are likely to be interactions"* (p. 38).

## **Part I - Concluding remarks**

Marvin and Britner assume that, although the set goal for a young child – at least until the age of four – has always some degree of physical proximity or contact, the basis of the attachment relationships changes for most children sometime around the age of four or five. At that age, children are becoming less dependent on physical proximity with their attachment figure for maintaining a sense of security. They are able to negotiate a plan regarding a brief separation and the following reunion. Instead of achieving physical proximity, the child's primary goal is to achieve mutual regulation of the relationship, which entails a balance between the attachment figure perspective and the child's perspective (Marvin & Britney, 1999).

In about the same period during which frequency and intensity of attachment behaviour diminishes, language develops. From then on, the organisation of knowledge becomes increasingly symbolic and logical, and fewer situations are frightening. The child becomes more self-reliant for his security. Distant forms of communication such as letters, pictures and phone calls substitute the physical forms of proximity and contact. Gradually, a more symmetrical and reciprocal relationship, a more verbal one, develops. The ascent and enrichment of language and the ensuing development of reflective function and mentalization (Target & Fonagy, 1996) makes possible a relationship that is completely different from the early attachment relationships. This relationship assumes a symbolic mediated, meaningful quality.

People have multiple strategies for addressing fear of loss or threats to relationships. Through the interventions that observed couple interaction and parenting behaviour, we could see that they are both correlated with children's adaptation. Consequently, it seems appropriate to consider that marital quality affects the child's security in two ways: directly (i.e., via emotional atmosphere) and indirectly (i.e., via parental practices). Clearly, if one partner can buffer the negative impact of the other's insecure working model, then working models of attachment are not single templates that function as personality markers of the individual. Rather, working models are complex, multifaceted, and relationship-specific. In this line, if we can affect either couple working models or couple interaction, there will be benefits for the child.

For these reasons, Blom and van Dijk (2007) propose that early attachment has a biological origin whereas adult relationships are social systems, that is, structured process of communication. They are symbolically mediated systems that give meaning to particular communications. In these sense, security is a product of communications.

Several authors propose that the ability to regulate and communicate about positive and negative emotions in the parent's families of origin (typical of secure subjects) is related to their ability to regulate and openly communicate about emotions in their new family (in their relationships as a couple and with their children), fostering current secure attachments working models.

## **Part II – Empirical Study**



### **Chapter III – Aims, Research Questions and Method**

Our study is part of a broader longitudinal research focused on the study of child's attachment in the familial (low risk) context (e.g., influence of infants' characteristics, parental practices and marital relationship in attachment quality) and its consequences for the quality of child's adaptation in the pre-school years (e.g., cognitive and social development).

As we have seen in the first part of our dissertation, intergenerational transmission of attachment concerns the process through which the parent's organization of attachment is expected to be related to the child's attachment with that parent. Mary Main (1991) was one of the firsts authors to argue that differences in attachment quality during infancy were strongly associated to the parent's metacognition quality and to the quality of the adults' attachment narratives, evidencing that insecure attachment models may contribute to the infant's insecurity, and therefore, to the intergenerational transmission of attachment. From an ecological perspective, broader contextual factors such as the marital quality may also play a role in this concordance between the parents' and their infants' attachment quality. Our study aims to examine the role of the intimate marital representations in the concordance of attachment quality between the infant and his/her mother and father, by exploring in particular the contribution of the parents' attachment and marital narratives coherence.

This chapter begins with the presentation of the study aims and research questions. The method is presented in three moments: firstly, we proceed to the sample characterization; secondly, we describe the measures; finally, we expose the procedures related to the administration and data coding and analysis.

### **3.1. Aims and research questions**

In general, our study aims to analyse the (non)concordance between the quality of infant's attachment and their both parents' and exploring the role of intimate marital representations in this process. Our research questions are as following:

#### **Aim 1**

To examine the mothers' and the fathers' attachment representations:

- a) What is the attachment patterns' distribution of the mothers and fathers in our sample?
- b) What are the differences between the parents' attachment patterns in terms of their AAI mega-items?
- c) Is there concordance between the mother's and the father's attachment organizations?

#### **Aim 2**

To examine the mothers' and the fathers' intimate marital representations:

- a) What is the maternal and paternal intimate marital representations' distribution?
- b) Is there concordance between the mothers' and the fathers' intimate marital representations?
- c) What are the differences between the parents' attachment representations in terms of their intimate marital representations?

#### **Aim 3**

To examine the infant' attachment quality to the mother and to the father:

- a) What is the attachment infant patterns' distribution?

#### **Aim 4**

To analyse the relations between the infant's attachment quality and HIS OR HER parents' attachment representations:

- a) Is there intergenerational concordance between the mother's (or father's) attachment representation and her (his) child's attachment quality?

- b) Is there concordance between the quality of the infant attachment to the mother and to the father?
- c) Is the mother's attachment representation associated with the concordance between the father's attachment representation and his/her infant's attachment to him?
- d) Is the father's attachment representation associated with the concordance between the mother's attachment representation and his/her infant's attachment to her?

### **Aim 5**

To analyse the relations between the infant's attachment quality and his/her parents' intimate marital representations:

- a) Which dimensions of the parents' intimate marital representations are associated with the quality of the infant's attachment to the mother and to the father?
- b) Which dimensions of the parents' intimate marital representations are associated with the concordance between the quality of the mother's representation and the quality of her infant's attachment to her (and between the quality of the fathers' attachment representation and the quality of his infant's attachment to him)?

### **Aim 6**

To analyse the association between the coherence in the parents' attachment representations and in their intimate marital representations:

- a) Is the coherence of the mother's attachment representation associated with the coherence of her intimate marital representations? Is the coherence of the father's attachment representation associated with the coherence of his intimate marital representations?

## 3.2. Method

### Participants

The families of our study were selected by a method of occasional sampling. Firstly, we established a contact with the directors of several nurseries in Oporto area. They acted as mediators in this initial process, delivering a letter that explained our aims and procedures to the families with infants younger than 10 months. The families interested in participate provided their telephone number to the main researcher of the study, which, by phone, personally explained the aims of the study and answered to all the questions. The vast majority of families gave a positive answer via a second phone call. The recruitment process was considered finished only when, after receiving by mail a socio-demographic sheet with a consent information form, the families returned it completed and signed by both parents.

Our sample is constituted by 47 infants (28 (61%) males and 18 females (39%)) (see Table 10), their mothers and fathers, belonging to intact families. Infants had a mean age of 13.91 months (S.D.=1.9), when assessed with mothers and a mean age of 14.7 months (SD=1.8) when assessed with fathers (see Table 11). The mean age of mothers was 33.58 years old (S.D.=4.68) and the one of fathers was 32.03 years old (SD=7.46).

**Table 10** – Infants' gender and age, when assessed at the Strange Situation with the mother or the father

| Infant Gender | Age at the Strange Situation |                           |           |
|---------------|------------------------------|---------------------------|-----------|
|               | N (12 months with mother)    | N (16 months with father) | N (total) |
| Male          | 19                           | 9                         | 28        |
| Female        | 14                           | 4                         | 18        |
| Total         | 33                           | 13                        | 46        |

**Table 11** – Mean ages of participants

|                                  | Mean (S.D.)  |
|----------------------------------|--------------|
| Infants' age in months SS mother | 13.91 (1.9)  |
| Infants' age in months SS father | 14.7 (1.8)   |
| Mothers' age in years            | 33.58 (4.68) |
| Fathers' age in years            | 32.03 (7.46) |

One socio-demographic sheet was developed in the context of the research project. It allowed the collection of complementary information, as the age of the parents, their educational level and professional occupation, as well as the family socio-economic level (calculated from the indexes of Graffar: level of Income, type of housing and area of residence) (Graffar, 1956), and infant's age and gender. Concerning the academic level, all mothers and fathers have more than 6 years of school education (see Table 12) and the vast majority have a level of education superior to 12 years of studies (mothers: n=38, 82.6%; fathers: n=35, 74.5%), or they have between 10 and 12 years of studies (mothers n=7, 15.2%; fathers: n=8, 17%). The socioeconomic level of the families is mainly medium-high and high (see Table 12).

**Table 12 – Sample Socio-demographic characteristics**

| <b>Academic Level</b>            | <b>Mothers<br/>n (%)</b> | <b>Fathers<br/>n (%)</b> |
|----------------------------------|--------------------------|--------------------------|
| Higher than 12 years             | 31 (66.0)                | 22 (46.8)                |
| Between 10 and 12 years          | 7 (14.9)                 | 13 (27.7)                |
| Between 8 and 9 years            | 4 (8.5)                  | 4 (8.5)                  |
| Higher than 6 years              | 3 (6.4)                  | 4 (8.5)                  |
| <b>Socio-economic Level</b>      | <b>n (%)</b>             |                          |
| High                             | 20 (42.6)                |                          |
| Middle High                      | 11 (23.4)                |                          |
| Middle                           | 7 (14.9)                 |                          |
| Middle Low                       | 7 (14.9)                 |                          |
| <b>Marital Status</b>            | <b>n (%)</b>             |                          |
| Single                           | 0 (0)                    |                          |
| Married/ Cohabiting with partner | 47 (100)                 |                          |

## Measures

Besides the socio-demographic sheet described above, we used the following measures in our study. To assess each parents' attachment representation, the Adult Attachment Interview – AAI (George, Kaplan, & Main, 1985; Portuguese version: Soares et al., 1996) was administered when their infant was 12 months of age. Couples' intimate marital representations were assessed by the Intimate Relationship Interview – IRI (Lima, Soares, Vieira, & Collins, 2005), administered to both mother and father, when their infant was also 12 months old. Infants' attachment quality was assessed by the Strange Situation procedure – SSP (Ainsworth, Blehar, Waters, & Wall, 1978), with the mother at 12 months and with the father at 16 months.

### *Parents' Attachment Representations*

The AAI is a semi-structured interview, which evaluates the security of the internal working model of the subject, namely the security of the self in relation to attachment. Demanded to address a certain number of topics, which reflect the main points of attachment according to the theory of Bowlby, the subject is questioned about his reactions, and the ones of their parental figures, in specific situations, such as personal problems or difficulties, diseases and accidents, separations, experiences with rejection and threats of abandonment by these figures, punishment, maltreatment and loss of significant persons. In each issue, the subject is asked to recall events or episodes illustrative of the described situations, and to assess the influence of these experiences in the development of his personality and attachment relationship.

By directing the attention of the subject to issues that appeal for memories and assessments of their relations with the attachment figures, the interview allows the activation of the attachment system. By activating this system, the interview is a prime opportunity to investigate how the subject is confronted with attachment issues, allowing, simultaneously, to examine the way he integrates his own memories related to attachment experiences. The AAI aims to assess the security of the attachment internal working model, which results in the subject's access to memories and to the ability to integrate positive and negative aspects of his relational experiences in a coherent whole. Insecurity relates to the lack of this integration ability and is reflected by inconsistencies and restrictions on attention, memory and narrative about the subjects' experiences focuses on attachment.

The AAI classification is based on the organisation of the individuals "state of mind". For this purpose, the interview comprises the following dimensions that are to be considered when they are analysed. The subject's narrative coherence; the attachment figures' idealization; the persistence on the lack of memories; the anger/irritation in face of his attachment figure; the passivity of speech; the passive/active devaluation of the attachment experiences; the metacognitive monitoring ability; the unresolved grief; the fear of lost (Main & Goldwyn, 1984, 1998). Main and Goldwyn (1984) identified four attachment organizations.

The Secure-autonomous (F) organization is evidenced by a clear and objective approach of the attachment experiences, by coherence in describing and assessing the positive and negative experiences, by relationships involvement and recognition of their influence in his development.

The Insecure-Dismissing (Ds) category is shown by the individual' s devaluation of attachment experiences and relationships as well as by the idealization of the attachment figures; an anonymous and impersonal speech and statements of invulnerability (e.g., argue to be "strong" and deny the experiences' effects) characterize also this kind of attachment narrative.

The insecure Preoccupied-Enmeshed (E) category is characterized by the individual's concern with their past experiences; he/she stay "stuck" on memories, being unable to "move beyond" and evidencing a negative emotional burden, anger, guilt, passivity and/or fear throughout the interview.

The Unresolved/Disorganized status (U/D) is evidenced by lapses in the monitoring of their speech and thought when addressing experiences of loss or abuse.

The AAI may be analysed and classified in different ways. The method of Main and Goldwin (1984, 1998), the method of Regensburg (Fremmer-Bombik, 1988) and the method of Kobak (1993), which is based on the code scales of the method of the Main and Goldwin (1984, 1998). We will describe the Attachment Q-Sort proposed by Kobak (1993), as it was the method we used to analyse and code our interviews. This method aims to identify three types of attachment representations: the secure-autonomous, the insecure preoccupied-enmeshed, the insecure dismissing. However, the fourth category of Unresolved/Disorganized status is not possible to be assessed by this method. In order to emphasize the relationship between emotional regulation and attachment system, Kobak's method also

allows the distinction between the subjects' use of minimized versus maximized emotional strategies (Security-Insecurity strategies and Deactivation-Hyperactivation strategies) (Treboux & Crowell, 1995; Crowell et al, 1999, Stein et al, 1998).

Kobaks' Attachment Q-Sort consists on the codification of 100 items, which are distributed in a forced way on 9 categories (with 5, 8, 12, 16, 18, 16, 12, 8 and 5 items by category). The Category 1 groups the items that worse describe the subject; the Category 5 groups the items that characterize him/her neither well nor badly; Category 9 groups the items that describe him/her the best.

The coding procedure is complex and long, consisting on a process of three steps (1) the coder reads the entire AAI at least twice; (2) the coder has a general impression about the subject and its dynamics and writes a paragraph about the interview, describing the individual's pattern of responses; (3) the coder distributes the cards into three groups (more typical: 41 cards; neutral: 18 cards; less typical: 41 cards); (4) a new reading of the transcript should be done, in order to allow the coder to do a final distribution using the all nine categories.

This method allows also assessing a certain number of Mega-items – ensembles of items, similar to subscales – related to attachment. Kobak (1998) has identified eight mega-items, based on conceptual models, supported by exploratory factorial analyses and by internal consistency analyses:

Mother Secure Base (5 items;  $\alpha=.90$ ): the subject's confidence on his mother's functioning ability.

Mother Availability (13 items;  $\alpha=.97$ ): the accessibility and support provided by the mother.

Father Availability (12 items;  $\alpha=.89$ ): the accessibility and support provided by the father.

Harsh Father (7 items;  $\alpha=.95$ ): the emphasis of the father in the performance, and success at the expense of emotional support; father's rigidity that intimidates the subject.

Family Disruption (7 items;  $\alpha=.83$ ): the presence of disruptions at the level of caregiving from the parents and to marital conflict.

Preoccupied (17 items;  $\alpha=.91$ ): the excessive focus on the attachment experiences and an exacerbation of the signs of disturbance.

Dismissing (14 items;  $\alpha=.85$ ): the minimisation of the signs of disturbance and the presentation of the self as invulnerable.

Coherence (28 items;  $\alpha=.97$ ): the subject's ability to recall the memories of childhood and to make from them relevant knowledge by integrating contradictory attachment experiences.

### *Parents' Intimate Marital Representations*

Our option to use the Intimate Representations Interview (Lima, Soares, Vieira, & Collins, 2005) relates to the fact that it gives us access to the couple's emotional intimacy on a representational level. Since our study focuses on issues of attachment intergenerational (dis)concordance, the contribution of this kind of representation is of special relevance.

The IRI is a semi-structured interview aiming to assess the mental representation of the intimate relationship of each couple's member. The protocol of the interview focuses on five main topics. It begins by addressing the influence on the current intimate relationship of other past relationships, namely with the attachment figures in childhood and throughout the development. Then the experiences related to careseeking and caregiving are explored, in situations of discomfort that are not directly related to the relationship or in situations associated with the couple's relationship. The questions that follow concern the regulation of proximity and distance from the partner and the sexual relationship. Finally, the IRI focuses on satisfaction, expectations and learning process related to the couple relationship, looking to assess the extent to which the individual sees its relationship as a facilitator of personal growth and as a balance between individual and relational needs and respect (Lima, Soares, Viera, & Collins, 2005).

A study about the IRI psychometric characteristics was carried (Lima, Soares, Viera, & Collins, 2005) out showing a good fidelity with a Cronbach's alpha of .95; when analyzing the scores of the couple separately, the coefficient of Cronbach's alpha for men was .96 and .93, for women. In addition, the results, both for men and women, also showed that all scales had high correlations with the total value above the reference value of .03 (Field, 2005).

The IRI coding system (Lima, Vieira, Soares & Collins, 2005) consists of seven scales of five points each. focused on the context of close relationships, including the ability to integrate and regulate the emotionality, the symmetry and reciprocity of careseeking and caregiving, sexual intimacy and the balance between individual and relational needs. The *integration of positive and negative emotions'* scale, assesses the expression of negative affect (e.g., verbalizations reflecting frustration, anger or hostility) and positive affect (e.g., the expression of positive feelings directed to another) and its recognition and integration in an organized and consistent entity. The *careseeking* scale assesses the person's ability to, in a clear way, search for care, expressing her vulnerability, maintaining these signs

until the partner recognise them, and showing willingness to be comforted by him. The *caregiving* scale assesses the individual's ability to recognize the partners' signs of vulnerability, satisfying his need for comfort and protection in an adequate and effective way, and therefore assuming himself as the secure base of the partner. The *Sexual intimacy* scale focuses on the partners' physical and emotional closeness and desire, in the context of emotional expression and open communication on topics of sexual nature. The scale of *individual versus relationship development* aims to assess in what extent the subject is able to experiencing personal growth and to perceive himself as independent, in the context of his relationship, or if the relationship inhibits his individual resources or needs and goals.

Once that the purpose of the IRI is to assess how the individual organizes internally his/her experiences in the context of close relationships, there are two levels of analysis - the semantic and episodic levels. In this sense, as a way of assessing the quality of discourse, two scales were developed. The *idealization* scale evaluates the discrepancy between the individual's general perception of himself and of the relationship, and the episodic support he gives to those perceptions. The *coherence* scale focuses on the precision and clarity of the individual's speech about the self, the partner and the relationship. It also assesses his ability to remain focused on the interview topics, the provision of evidence for his assessments and general perceptions; and it reflects the way the subject integrates his experience in the context of his intimate relationship.

### *Infants' attachment quality*

To assess infants' attachment quality we used the Strange Situation procedure (SSP; Ainsworth, Blehar, Waters, & Wall, 1978), with the mother when the infant was 12 months of age and with the father when the infant was 16 months of age.

The Strange Situation is a standardized assessment procedure, consisting on a fixed sequence of eight episodes, designed as an approximation of the situations that most of the infants found in their daily lives and to activate and/or to intensify the attachment system behaviour of the one year-old infant (Ainsworth & Wittig, 1969). As it can be seen in Table 14, this procedure involves two brief separations and two reunions between the infant and the attachment figure. Both the infant's exploratory behaviour and the reaction to a strange person can be observed in the presence and absence of the attachment figure. The reaction to that absence can be assessed either when the infant is alone, or when he is in

the presence of the strange person. The infant's response to the reunion with the attachment figure, after his absence, can be compared with the response to the return of the strange subject.

**Table 13 – Summary of the Strange Situation procedure**

| <b>Episode</b> | <b>Persons in the room</b> | <b>Durability</b> | <b>Action description</b>  |
|----------------|----------------------------|-------------------|--|
| 1              | M, B, E (1)                | 30 s              | E shows room to M and B and leaves   |
| 2              | M, B                       | 3 m               | M doesn't participate when B explores  |
| 3              | M, B, S                    | 3 m               | S enters:<br>1 <sup>st</sup> minute, S seats quite on her chair<br>2 <sup>nd</sup> minute, S talks with M<br>3 <sup>rd</sup> minute, S approaches B<br>M leaves room after these 3 minutes |
| 4              | E, B                       | 3 m               | S answers B and offers comfort if necessary  |
| 5              | M, B                       | 3 m               | M enters and S leaves<br>M greets and/or comforts B<br>M tries that B returns to play<br>M leaves saying goodbye   |
| 6              | B                          | 3 m or less       | B is alone   |
| 7              | E, B                       | 3 m or less       | S enters and interacts with B  |
| 8              | M, B                       | 3m                | M enters, greets B, picks him up<br>S leaves quietly<br>B returns to exploration   |

(1) M= mother, B= Baby, S= strange, E= experimenter

Concerning the coding methods of infants' attachment behaviours in the SS, Ainsworth and cols. (1978) refer three types of evaluations. First, the frequency of specific behaviours in each episode. Second, the infant's behaviour regarding the attachment figure through four levels of interactive behaviour (i.e., proximity seeking; contact maintaining; contact resistance and contact avoidance). Finally, the infant's classification according to behavioural patterns. If the first two measures are useful to characterize a type of normative behaviour over several episodes, the classification system in terms of patterns or categories, which reflects the organization of the infant's behaviour in the context of their relationship with the attachment figure, has proved to be more significant to assess individual differences.

The assessment of infants' attachment patterns in the Strange Situation enables the identification of four attachment behavioural patterns: insecure-avoidant pattern (A); secure pattern (B); insecure resistant/ambivalent pattern (C); and insecure disorganized/disoriented pattern (D).

The insecure-avoidant group (A) is characterized by the infant's avoidance to manifest attachment behaviours towards the attachment figure. Especially in episodes of reunion, he ignores or moves away from the caregiver. Moreover, the infant shows neither proximity seeking nor actively resistant behaviour to physical contact, and does not protest at the absence of the attachment figure. The strange person is treated in a similar way to the attachment figure, and the infant may even be less avoidant with her. The A group may be distinguished in two subgroups: while in the A1 subgroup there is a marked avoidance of the attachment figure at the reunion episodes, in the A2 subgroup there is some moderate expression of proximity but this is combined with strong avoidance behaviours.

In the secure group (B) are classified the infants' that evidence an active proximity seeking and interaction with the attachment figure, especially in reunion episodes. When the contact is reached, the infant seeks to maintain it, without showing contact resistance in the interaction or contact avoidance. The infant displays protest behaviours in the attachment figure absence and cannot be comforted by the strange person. We may distinguish four B subgroups. The subgroups B1 and B2 are characterised by a more distant interaction with the attachment figure, especially in reunion episodes, through smiles or vocalizations, rather than physical proximity. While in the B1 subgroup there is a strong interaction at a distance, without an active proximity seeking or contact, and maybe even with some avoidance behaviours, in the subgroup B2 there is some more active search for contact with the attachment figure. The infants of B3 and B4 subgroups evidence an active proximity seeking and contact maintaining with the attachment figure after her absence: while in B3 subgroup these characteristics are clear, in the B4 subgroup the proximity seeking and contact maintaining with the attachment figure seems already associated with some resistance or ambivalence.

The insecure resistant/ambivalent group (C) is characterized by the coexistence of active contact resistance behaviours and proximity seeking or contact maintaining behaviours with the attachment figure. This active search for physical contact inhibits or hinders the infant's exploration of the environment. However, C infants do not show, or show little, avoidance; rather they display resistance behaviours (irritation or passivity). We can distinguish two C subgroups: while in the C1 subgroup the search for contact is associated with a significant irritation, in the C2 subgroup the infants show a

particularly sharp passivity, tending to manifest more signs towards the mother than active proximity behaviours in the reunion episodes.

The group of infants insecure disorganized/disoriented (D), more recently discovered, evidence a series of indirect or mal-directed behavioural responses, in the context of the strange situation. The signals of disorganization, among infants of 12-18 months, observed in the presence of the attachment figure, include: a) sequential and/or contradictory behaviours; b) movements and expressions that are undirected incomplete or interrupted; c) stereotypes, asymmetric movements and abnormal postures; d) immobilization, slow movements and expressions of astonishment; e) expressions of apprehension and fear related to the attachment figure (Main & Solomon, 1990).

### *Procedures*

Two separate teams were structured in order to assess the families according to the different settings. One team was in charge of the Strange Situation data collection (six elements) and the second one of the AAI and IRI interviews (five elements).

In our study, as we have mentioned before, both parents have to be assessed with the infant in the same methodological setting. For this reason, it was necessary to manage the strange situation with both parents balancing its administration in terms of the infants' age. The literature points to the high stability of the patterns (50% to 96%) when the assessments occur from 2 to 6 months of difference (Solomon & George, 1999). Following the usual procedure in these cases, the first dyad was assessed when infants had 12 months and the second dyad at infants' 16 months. This procedure implied two visits from the families to our laboratory (two contiguous rooms separated by a unidirectional mirror, prepared with video equipment), located at the Medical Centre of Oporto or the Institute Superior of Maia.

The Adult Attachment Interview (60 to 90 minutes), followed by the Intimate Relationship Interview (15 to 30 minutes), were administered in our laboratory or at the families' home, according to the participants decision. The interviewers had a substantial knowledge of attachment theory and special training in administration of the AAI and the IRI. Interviewers were randomly assigned to conduct separate interviews with the fathers and the mothers of the study. The interviews were recorded and then transcript *verbatim*, in order to be coded by judges, trained for this purpose. In particular, the transcripts included indications of speaking difficulties and genuine speaking errors on the part of both the interviewer and the participant. Pauses in speech were recorded and timed, irregular speech patterns were marked, and sounds, including emotional expressions, such as crying, laughing, and sighing, were recorded. The only digressions from the actual narrative were made by transcribers to preserve confidentiality, and included deletions of identifying personal information, such as names, places, medical conditions, or titles.

Three separate blinded teams were structured in order to code the different assessment measures. One team coded the Strange Situation (7 judges), the second team was responsible for the AAI coding (10 judges) and the third one for the IRI coding (6 judges).

To code the 94 Strange Situation videos, according to the A / B / C system of Ainsworth and cols. (1979), a team of seven judges was formed and got reliability with this system by Karin Grossmann, University of Regensburg (Germany), credited for this purpose. The 92 films were distributed randomly to the judges. With exception of the two main researchers (the one responsible for this project and another one with whom this sample was shared), these judges did not have a prior contact with the sample. The inter-observer concordance was calculated using the Kappa coefficient of Cohen in a random selection of 47 cases (51.09%) assessed by two judges. There was a good concordance rate ( $k = .76$ ,  $p < .001$ ). In cases where there was a concordance on the attachment pattern by the two judges, the interactive scales' means were calculated. When this was not the case, a third judge coded the video and then a final classification was assigned according to one of the two initials judges.

With respect to the Adult Attachment Interview, the coding of each interview was done by two independent judges, and then the two coding were compared, in order to find a level of concordance accepted as sufficient by the method of Split-half for continue variables (Spearmen-Brown  $< .65$ ). In cases where the inter-judges concordance was not sufficient, a coding of a third judge became necessary. This final classification was then assigned according to one of the two initials judges. The

concordance mean rate of our coders was of .873  $p < .001$ ). From these codings we arrived to a classification of the tree attachment representations prototypes (categories of Secure-Autonomous; Insecure Preoccupied-Enmeshed and Insecure Dismissing), of the subject's attachment strategies of Security-Insecurity and Deactivation-Hyperactivation (continue variables) and of the attachment mega-items. .

Concerning the Intimate Relationship Interview, two independent judges, previously trained in the method of assessment, also coded the interviews. In the cases where there was not an accord between the two judges, the interviews are addressed to a third judge. In order to assess the reliability of the results obtained we use the method of inter-coders concordance. In the IRI case, since we are dealing with an ordinal variable, we used the Intra-class correlation coefficient (Martins & Machado, 2006). The concordance mean rate of our coders was of .892  $p < .001$ ., suggesting good levels of reliability.

The statistical analyses in our study were carried out with the statistic program SPSS version 15.0. Statistical tests were chosen according to the variable characteristics and the study's aims. In order to compare differences between groups we used  $\chi^2$  and three-way loglinear analysis for categorical variables; for continue variables we used Student T-tests, one-way ANOVAs and MANOVAs, depending the characteristics and the number of output variables. All continue variables were compared between them using Pearson Correlations. Mixed Analyses, using the statistical program SAS are still in progress, but we did not finish them during the course of our dissertation. In the next chapter, we will present the results of this ensemble of analyses (see our plan of analyses in annexe).



## Chapter IV – Results

The chapter is organised according to the following order: in a first moment, the distributions of the mothers and fathers' attachment representations are presented, and next we focused in their Intimate Marital Representations. The association between these two kinds of representations are then analysed. The infants' attachment quality distributions are introduced in a subsequent moment, followed by results concerning the relation between the infants' attachment quality with their parents' attachment representations, as well as, with their parents' intimate marital representations. We finish this section with a summary of our research findings.

## 5.1. Attachment Representations of Mothers and Fathers

Tables 15 and 16 show the distribution of the mothers and fathers' attachment representations in terms of Secure/Insecure groups and in terms of the three attachment patterns: Secure-autonomous (F), Insecure Dismissing (Ds) and, insecure Preoccupied-Enmeshed (E).

As we can see, 61.7% (n=29) of the mothers were classified as secure-autonomous in the *Adult Attachment Interview* (AAI), whereas 9.6% (n=4) were classified as insecure-dismissing, and 28.7% (n=13) as insecure-preoccupied.

**Table 15** – Distribution of mothers' attachment representations

| Secure<br>n (%) | Insecure<br>n (%)   |                      |
|-----------------|---------------------|----------------------|
| 29 (61.7)       | 17 (38.3)           |                      |
|                 | Dismissing<br>n (%) | Preoccupied<br>n (%) |
|                 | 4 (9.6)             | 13 (28.7)            |

Concerning fathers, 53.2% (n=25) of them were classified as secure-autonomous in the AAI, whereas 31.1% (n=16) were classified as insecure-dismissing, and 11.6% (n=5) as insecure preoccupied-enmeshed.

**Table 16** – Distribution of fathers' attachment representations

| Secure<br>n (%) | Insecure<br>n (%)   |                      |
|-----------------|---------------------|----------------------|
| 25 (53.2)       | 21 (46.9)           |                      |
|                 | Dismissing<br>n (%) | Preoccupied<br>n (%) |
|                 | 16 (35.1)           | 5 (11.6)             |

One multivariate analysis of variance (MANOVA) was carried out in order to compare the mothers' attachment patterns in terms of their Adult Attachment Interview mega-items. This analysis revealed highly significant differences between the several AAI mega-items depending on the mothers' attachment pattern (Wilks' Lambda = .031;  $p = .000 < .001$ ; for  $F$  values see Table 17). Univariate analysis, followed by the Scheffé post-hoc tests, showed that the means of every AAI mega-item were different between groups.

**Table 17** – Differences between mothers' attachment patterns in terms of AAI mega-items

| Attachment                 | Secure        | Dismissing   | Preoccupied    |                 |                                |
|----------------------------|---------------|--------------|----------------|-----------------|--------------------------------|
| Mega-items                 | (n=29)        | (n=4)        | (n=13)         | $F(2,43)$       | Scheffé                        |
|                            | Mean (s.d.)   | Mean (s.d.)  | Mean (s.d.)    |                 | post-hoc tests                 |
| <b>Mother Availability</b> | 75.22 (14.64) | 56.75(10.59) | 61.38(14.29)   | <b>6.00**</b>   | F > Ds <sup>+</sup> ; F > E**  |
| <b>Mother Base</b>         | 28.62 (4.10)  | 24.25 (2.53) | 22.77 (5.35)   | <b>8.55***</b>  | F > E***                       |
| <b>Father Availability</b> | 62.16 (9.71)  | 49.88 (5.42) | 52.92 (11.91)  | <b>5.28**</b>   | F > Ds <sup>+</sup> ; F > E*   |
| <b>Harsh Father</b>        | 32.38 (6.01)  | 38.50 (4.55) | 37.38 (7.87)   | <b>3.56*</b>    | E > F <sup>+</sup>             |
| <b>Family Disruption</b>   | 33.19 (6.27)  | 39.13 (4.77) | 38.96 (7.68)   | <b>4.15*</b>    | F < E*                         |
| <b>Preoccupied</b>         | 54.95 (9.74)  | 94.38 (4.67) | 112.16 (20.40) | <b>86.67***</b> | F < Ds***; F < E***            |
| <b>Dismissing</b>          | 49.97 (6.66)  | 95.13 (2.75) | 61.42 (10.71)  | <b>61.11***</b> | F < Ds***; F < E***; Ds < E*** |

\*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$ ; +  $p < .100$

Another multivariate analysis of variance (MANOVA) was carried out in order to compare the father's attachment patterns in terms of their Adult Attachment Interview mega-items. This analysis revealed highly significant differences between the several AAI mega-items depending on the fathers' attachment pattern (Wilks' Lambda = .04;  $p = .000 < .001$ ; for  $F$  values see table 18). Univariate analysis, followed by the Scheffé post-hoc tests, showed that almost all AAI mega-items (except mother base and family disruption) were different for each of the fathers' attachment patterns, at least at a significant level.

**Table 18 – Differences between fathers' attachment patterns in terms of AAI mega-items**

| Attachment                 | Secure        | Dismissing    | Preoccupied    |                 |                              |
|----------------------------|---------------|---------------|----------------|-----------------|------------------------------|
| Mega-items                 | (n=25)        | (n=16)        | (n=5)          | <i>F</i> (2,43) | Scheffé                      |
|                            | Mean (s.d.)   | Mean (s.d.)   | Mean (s.d.)    |                 | post-hoc tests               |
| <b>Mother Availability</b> | 79.20 (11.47) | 68.56 (12.44) | 74.40 (9.46)   | <b>4.07*</b>    | F > Ds*                      |
| <b>Mother Base</b>         | 29.64 (3.26)  | 27.31 (3.10)  | 26.00 (5.32)   | <b>3.61*</b>    | (n.s.)                       |
| <b>Father Availability</b> | 59.56 (8.44)  | 55.44 (10.00) | 47.80 (5.63)   | <b>4.02*</b>    | S > E*                       |
| <b>Harsh Father</b>        | 34.80 (5.38)  | 40.13 (7.49)  | 42.90 (1.92)   | <b>6.08**</b>   | F < Ds*; F < E*              |
| <b>Family Disruption</b>   | 32.64 (5.45)  | 36.28 (6.35)  | 37.50 (5.48)   | 2.72+           | (n.s.)                       |
| <b>Preoccupied</b>         | 55.52 (12.78) | 94.63 (10.37) | 109.40 (34.95) | <b>44.50***</b> | F < Ds***; F < E***          |
| <b>Dismissing</b>          | 54.68 (6.10)  | 84.66 (11.38) | 65.80 (9.32)   | <b>59.22***</b> | F < Ds***; F < E*; Ds > E*** |

\*\*\* p<.001; \*\* p<.01; \* p<.05; + p<.100

Two multivariate analysis of variance (MANOVAs) were carried out in order to compare the parent's attachment strategies. The MANOVAs revealed highly significant differences in both mother and fathers' security/insecurity levels as well as for their deactivation/hyperactivation levels (mothers: Wilks' Lambda=.02; p=.000<.001; Wilks' Lambda=.06; p=.000<.001; for *F* values see Table 19 and 20), depending on their attachment pattern. Univariate analysis, followed by the Scheffé post-hoc tests, showed that as expected Dismissing parents have higher levels of deactivation and that Secure parents have higher levels of security, both in a highly significant way.

**Table 19 – Differences between mothers' attachment patterns in terms of attachment strategies**

|                                     | Secure      | Dismissing  | Preoccupied |                  |                                |
|-------------------------------------|-------------|-------------|-------------|------------------|--------------------------------|
| Attachment                          | (n=29)      | (n=4)       | (n=13)      | <i>F</i> (2,43)  | Scheffé                        |
| Strategies                          | Mean (s.d.) | Mean (s.d.) | Mean (s.d.) |                  | post-hoc tests                 |
| <b>Security-Insecurity</b>          | .70 (.18)   | -.67 (.10)  | -.31 (.18)  | <b>218.68***</b> | F > Ds***; F > E***; Ds < E**  |
| <b>Deactivation-Hyperactivation</b> | -.12 (.10)  | .50 (.06)   | -.31 (.21)  | <b>56.45***</b>  | F < Ds***; F > E***; Ds > E*** |

\*\*\* p<.001; \*\* p<.01

**Table 20** – Differences between fathers' attachment patterns in terms of attachment strategies

|                                  | Secure<br>(n=25) | Dismissing<br>(n=16) | Preoccupied<br>(n=5) | <i>F</i> (2,43) | Scheffé<br>post-hoc tests     |
|----------------------------------|------------------|----------------------|----------------------|-----------------|-------------------------------|
| Attachment<br>Strategies         | Mean (s.d.)      | Mean (s.d.)          | Mean (s.d.)          |                 |                               |
| Security-Insecurity              | .740 (.13)       | -.49 (.17)           | -.22 (.51)           | <b>174.9***</b> | F > Ds***. F > E***. Ds < E** |
| Deactivation-<br>Hyperactivation | -.07 (.18)       | .37 (.13)            | -.22 (.22)           | <b>7.86***</b>  | F < Ds***. Ds > E***          |

\*\*\* p<.001; \*\* p<.01

Four univariate analysis of variance (one-way ANOVAs) were carried out in order to compare the parents' attachment patterns in terms of their ages and family socio cultural level (Table 21 and 22).

Concerning mothers' and fathers' age, each of the one-way ANOVAs revealed no significant differences between their attachment patterns (mother:  $F(2,42)=1.02$ ,  $p=n.s.$ ; father:  $F(2,43)=.07$ ,  $p=n.s.$ ).

As for the family socio economic status level, the two one-way ANOVAs performed revealed significant differences between mothers' attachment patterns ( $F(2,42)=3.74$ ,  $p=.03<.05$ ) but not between fathers' attachment patterns ( $F(2,42)=.93$ ,  $p=n.s.$ ). Avoidant mothers of our sample tend to have a higher socio cultural level than Preoccupied-Enmeshed ones.

**Table 21** – Differences between attachment patterns in terms of mothers' age and socio cultural level

|                          | Secure<br>(n=28) | Dismissing<br>(n=4) | Preoccupied<br>(n=13) | <i>F</i> (2,43) | Scheffé<br>post-hoc tests |
|--------------------------|------------------|---------------------|-----------------------|-----------------|---------------------------|
| Attachment<br>Strategies | Mean (s.d.)      | Mean (s.d.)         | Mean (s.d.)           |                 |                           |
| Age                      | 32.75 (4.4)      | 33.69 (2.85)        | 34.98 (5.48)          | 1.02            | -----                     |
| Socio cultural level     | 2.14 (1.08)      | 3.00 (1.15)         | 1.46 (.97)            | <b>3.74*</b>    | Ds > E*                   |

\*p<.05

**Table 22** – Differences between attachment patterns in terms of fathers' age and socio cultural level

|                             | Secure<br>(n=25)<br>Mean (s.d.) | Dismissing<br>(n=16)<br>Mean (s.d.) | Preoccupied<br>(n=5)<br>Mean (s.d.) | <i>F</i> (2,43) |
|-----------------------------|---------------------------------|-------------------------------------|-------------------------------------|-----------------|
| <b>Age</b>                  | 32.27 (7.17)                    | 31.55 (9.02)                        | 32.8 (4.87)                         | .07             |
| <b>Socio cultural level</b> | 2.13 (1.19)                     | 1.67 (.90)                          | 2.20 (1.10)                         | .93             |

For sample size reasons, analyses between measures and between subjects were performed in terms of participants' attachment groups, rather than their attachment patterns categories.

Regarding the concordance between mothers' and fathers' attachment representations no significant association was found between the mothers' and the fathers' AAI classification (Table 23). This was true whether we considered the three attachment patterns' classification or the security versus insecurity distinction.

In terms of the three attachment patterns' classification, a correspondence in 17 cases (37.8%) (*versus* 40.7%,  $n=18.3$  of expected correspondence) was observed. For the security versus insecurity distinction, a correspondence between mothers and fathers classification was observed in 24 cases, that is 53.3% of the participants (*versus* 51.5%,  $n=23.2$  of expected correspondence) ( $\chi^2 (1)=.08$ ,  $p=n.s.$ ;  $K=.041$ ,  $p=n.s.$ ).

**Table 23** - Concordance between mothers' and the father's attachment representations

| Mother \ Father   | Secure    | Dismissing | Preoccupied |
|-------------------|-----------|------------|-------------|
|                   | (n=28)    | (n=4)      | (n=13)      |
| Secure (n=25)     | 16 (15.6) | 3 (2.2)    | 6 (7.2)     |
| Dismissing (n=16) | 9 (9.3)   | 0 (1.3)    | 6 (4.3)     |
| Preoccupied (n=5) | 3 (3.1)   | 1 (0.4)    | 1 (1.4)     |

Mothers Secure/Insecure → Fathers Secure/Insecure

$$\chi^2(1) = .08 \text{ (n.s.)}; K=.041 \text{ (n.s.)}$$

Note: Values between brackets represent expected frequencies

## 5.2. Intimate Marital Representations of Mothers and Fathers

In order to compare the mothers' and the fathers' Intimate Marital Representations, we proceed to paired T-testes analyses for the several spouses' IRI scales (Table 24). Mothers evidence better levels of marital careseeking than their husbands do in a high significant way ( $t(45) = 2.70$ ,  $p = .01$ ), as well as better levels of marital coherence in a significant way ( $t(45) = 2.38$ ,  $p = .02 < .05$ ).

**Table 24** – Differences between mothers and fathers' intimate marital representations

| Intimate Marital Representations | Mothers               | Fathers               | $t(45)$        |
|----------------------------------|-----------------------|-----------------------|----------------|
|                                  | (N=45)<br>Mean (s.d.) | (N=45)<br>Mean (s.d.) |                |
| Emotional Integration            | 3.50 (.80)            | 3.52 (.84)            | .47            |
| Careseeking                      | 3.62 (1.03)           | 3.00 (1.23)           | <b>2.70 **</b> |
| Caregiving                       | 3.32 (.84)            | 3.28 (.78)            | .14            |
| Sexual Intimacy                  | 3.32 (1.20)           | 3.11 (1.25)           | 1.22           |
| Individual /Relationship         | 3.79 (.98)            | 3.72 (.78)            | .39            |
| Idealization                     | 2.04 (.83)            | 2.35 (.97)            | -.66           |
| Coherence                        | 3.68 (.86)            | 3.21 (1.03)           | <b>2.38 *</b>  |

\*\*  $p < .01$ ; \*  $p < .05$

Table 25 displays the Pearson correlations among parents' internal marital representations. In general, these analyses confirm the referred couples' tendency to assess their intimate marital representations in a quite similar way, once that we found highly significant and significant correlations between the mothers' intimate marital representations scales and the ones of the fathers. Of special interest is the fact that the mothers and the fathers' Emotional Integration and Sexual Intimacy scales are correlated between them.

**Table 25 – Correlations between mothers and fathers' intimate marital representations**

| Mother \ Father          | Emotional     |               |               | Sexual        | Individual /  | Idealization   | Coherence    |
|--------------------------|---------------|---------------|---------------|---------------|---------------|----------------|--------------|
|                          | Integration   | Careseeking   | Caregiving    | Intimacy      | Relationship  |                |              |
| Emotional Integration    | <b>.360*</b>  | <b>.382**</b> | <b>.332*</b>  | .134          | .270          | -.239          | <b>.325*</b> |
| Careseeking              | .163          | .104          | .084          | .033          | <b>.298*</b>  | -.192          | .184         |
| Caregiving               | .180          | <b>.387**</b> | .205          | .052          | .134          | -.078          | .076         |
| Sexual Intimacy          | <b>.376**</b> | <b>.477**</b> | <b>.441**</b> | <b>.518**</b> | <b>.382**</b> | <b>-.382**</b> | .191         |
| Individual /Relationship | <b>.329*</b>  | <b>.348*</b>  | .255          | .236          | .207          | -.035          | .222         |
| Idealization             | .030          | -.215         | -.188         | -.089         | -.150         | .063           | .066         |
| Coherence                | .040          | .146          | .196          | .072          | .100          | .076           | -.024        |

\*\*\* p<.001; \*\* p<.01; \* p<.05

### 5.3. Association between Attachment Representations of Mothers and Fathers and their Intimate Marital Representations

Two MANOVAs analyses were carried out in order to compare the mothers' and the fathers' attachment groups in terms of their Intimate Marital Representations.

Concerning mothers, MANOVA analysis revealed significant differences between the several IRI scales depending on the mothers' attachment group (Wilks' Lambda=.632;  $p=.010$ ; for  $F$  values see Table 26). The second MANOVA revealed marginal differences between the several fathers' IRI scales and their attachment groups (Wilks' Lambda=.87;  $p=n.s.$ ; for  $F$  values see Table 27). Univariate analysis, followed by the Scheffé post-hoc tests, showed that Secure mothers were more coherent in their marital representations, and have marginally less idealization than the insecure ones. Secure fathers are better caregivers toward their wives and have marginally higher levels of emotional integration than insecure men have.

**Table 26** – Differences of mothers' attachment groups in terms of their intimate marital representations

|                          | Secure<br>(n=29)<br>Mean (s.d.) | Insecure<br>(n=17)<br>Mean (s.d.) | $F(2,43)$      |
|--------------------------|---------------------------------|-----------------------------------|----------------|
| Emotional Integration    | 3.72 (.92)                      | 3.35 (.49)                        | 2.34           |
| Careseeking              | 3.58 (1.09)                     | 3.64 (.99)                        | .036           |
| Caregiving               | 3.31 (.89)                      | 3.35 (.79)                        | .027           |
| Sexual Intimacy          | 3.41 (1.35)                     | 3.29 (.77)                        | .11            |
| Individual /Relationship | 3.90 (1.11)                     | 3.71 (.59)                        | .43            |
| Idealization             | 1.86 (.83)                      | 2.29 (.77)                        | 3.04+          |
| Coherence                | 4.00 (.80)                      | 3.18 (.73)                        | <b>12.08**</b> |

\*\*\*  $p<.001$ ; \*\*  $p<.01$ ; \*  $p<.05$ ; +  $p<.100$

**Table 27 – Differences of fathers' attachment groups in terms of their intimate marital representations**

|                          | Secure<br>(n=24)<br>Mean (s.d.) | Insecure<br>(n=21)<br>Mean (s.d.) | <i>F</i> (2,43)         |
|--------------------------|---------------------------------|-----------------------------------|-------------------------|
| Emotional Integration    | 3.70 (.91)                      | 3.29 (.72)                        | 2.94 <sup>+</sup>       |
| Careseeking              | 3.21 (1.14)                     | 2.71 (1.31)                       | 1.83                    |
| Caregiving               | 3.50 (.78)                      | 3.00 (.71)                        | <b>5.02<sup>*</sup></b> |
| Sexual Intimacy          | 3.17 (1.46)                     | 3.00 (1.00)                       | .19                     |
| Individual /Relationship | 3.88 (.68)                      | 3.57 (.87)                        | 1.72                    |
| Idealization             | 2.17 (.96)                      | 2.48 (.92)                        | 1.20                    |
| Coherence                | 3.47 (1.06)                     | 3.00 (1.00)                       | 1.82                    |

\*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$ ; +  $p < .100$

Table 28 displays the correlations of mothers' attachment mega-items and attachment strategies with their intimate marital representations. In general, we have found highly significant and significant correlations between them. The coherence of marital narrative is the more frequently associated scale with the mothers' attachment mega-items. It is correlated with all mega-items except with the paternal ones (father availability and harsh father). Of special interest for our study is the positive association found between the marital coherence scale and almost all AAI mega-items, in particular with the coherence attachment mega-item and the level of security of the female participants.

**Table 28** - Correlations between mothers' attachment mega-items, attachment strategies, and their intimate marital representation

| Attachment \ Int.Mar.Rep         | Emotional   |             | Sexual     |          | Individual / |              | Coherence |
|----------------------------------|-------------|-------------|------------|----------|--------------|--------------|-----------|
|                                  | Integration | Careseeking | Caregiving | Intimacy | Relationship | Idealization |           |
| Mother Availability              | .079        | .202        | .211       | .210     | .174         | -.291*       | .506***   |
| Mother Base                      | .099        | .130        | .236       | .179     | .139         | -.285        | .544***   |
| Father Availability              | .247        | .015        | .047       | .082     | .398         | -.124        | .041      |
| Harsh Father                     | -.227       | .017        | -.092      | -.082    | -.395***     | .110         | .004      |
| Family Disruption                | -.177       | -.180       | -.134      | -.124    | -.246        | .246         | -.339*    |
| Preoccupied                      | -.143       | .048        | .055       | .022     | -.120        | .138         | -.442**   |
| Dismissing                       | -.233       | -.093       | .012       | -.096    | -.099        | .278         | -.372*    |
| Coherence                        | .194        | -.088       | -.172      | .088     | .028         | -.211        | .323*     |
| Security-Insecurity              | .215        | -.052       | -.060      | .136     | .151         | -.266        | .431***   |
| Deactivation-<br>Hyperactivation | -.059       | -.014       | .188       | -.066    | .148         | .142         | .080      |

\*\*\* p<.001; \*\* p<.01; \* p<.05

Table 29 displays the correlations of fathers' attachment mega-items and attachment strategies with their intimate marital representations. We found highly significant and significant correlations between these dimensions in the fathers of our sample. However, differently from the mothers, the coherence narrative about past attachment experiences seem the most relevant variable. This mega-item, in fathers' case, is positively associated with marital emotional integration, spouse caregiving, marital narrative coherence; and negatively associated with marital idealisation.

Of some relevance is also the fact that both fathers' attachment strategies are highly associated with the fathers' marital scales. The only marital scale which seems to be more predominant among the correlations with the attachment past representations of the men is the caregiving scale. We wish to underline that, as for the mothers, we have also found here a positive association between the marital coherence scale and the attachment coherence mega-item.

**Table 29** - Correlations between fathers' AAI mega-items, and attachment strategies, and their intimate marital representations

| Int.Mar.Rep.<br>AAI mega-items   | Emotional      |             | Sexual         |               | Individual /   |               | Coherence    |
|----------------------------------|----------------|-------------|----------------|---------------|----------------|---------------|--------------|
|                                  | Integration    | Careseeking | Caregiving     | Intimacy      | Relationship   | Idealization  |              |
| Mother Availability              | .102           | .092        | <b>.372*</b>   | .028          | .183           | -.070         | .052         |
| Mother Base                      | -.014          | .071        | .138           | -.142         | -.045          | .076          | .041         |
| Father Availability              | -.137          | -.016       | -.110          | -.210         | <b>-.301*</b>  | .197          | -.067        |
| Harsh Father                     | .027           | -.107       | .022           | .167          | .289           | -.123         | -.033        |
| Family Disruption                | -.039          | -.178       | -.151          | .120          | .029           | -.111         | -.015        |
| Preoccupied                      | -.100          | -.259       | -.265          | .004          | -.058          | .152          | -.245        |
| Dismissing                       | -.266          | -.161       | <b>-.413**</b> | -.180         | -.221          | .118          | -.090        |
| Coherence                        | <b>.315*</b>   | .287        | <b>.408**</b>  | .095          | .261           | <b>-.302*</b> | <b>.307*</b> |
| Security-Insecurity              | .275           | .270        | <b>.405**</b>  | .103          | .209           | -.231         | .288         |
| Deactivation-<br>Hyperactivation | <b>-.380**</b> | -.065       | <b>-.418**</b> | <b>-.315*</b> | <b>-.386**</b> | .206          | -.117        |

\*\*\* p<.001; \*\* p<.01; \* p<.05

Two multivariate analysis of variance (MANOVAs) were carried out in order to compare mothers' and fathers' Intimate Marital Representation in terms of differences in the couples' attachment constellations (see Table 30 and 31). For this aim, as we mentioned in chapter three, a new set of variables was created to translate the (dis)agreement between the couples' attachment groups: a) Secure mother and Secure father; b) Secure mother and Insecure father; c) Insecure mother and Secure father; and Ds) Insecure mother and Insecure father.

Concerning mothers, these analyses revealed significant differences between the IRI scales and the several couples' attachment constellations (Wilks' Lambda=.38; p=.018<.05). The Univariate analysis, followed by the Scheffé post-hoc tests, allowed us to identify that couples where the mother and the father, both have a Secure attachment are marginally more coherent in their marital representations than couples with both insecure partners (F(2,44)=2.43, p=.08<.10). The fathers' Intimate Marital representations did not show significative differences between the couples' attachment constallations (Wilks' Lambda=.721; p=n.s.).

**Table 30 - Mothers' Intimate Marital Representation in terms of the couples' attachment representations**

| Intimate Marital Represent. | Secure mother /Secure father | Secure mother / Insecure father | Insecure mother / Secure father | Insecure mother / Insecure father | F (2,44) | Scheffé post-hoc tests |
|-----------------------------|------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------|------------------------|
|                             | (n=16)                       | (n=13)                          | (n=9)                           | (n=7)                             |          |                        |
|                             | Mean (s.d.)                  | Mean (s.d.)                     | Mean (s.d.)                     | Mean (s.d.)                       |          |                        |
| Emot.Integ.                 | 3.75 (51.06)                 | 3.69(.63)                       | 3.22(.67)                       | 3.43 (.53)                        | .98      | -----                  |
| Careseeking                 | 3.44(1.09)                   | 3.77(1.17)                      | 3.89 (.60)                      | 3.29(1.25)                        | .66      | -----                  |
| Caregiving                  | 3.44(.81)                    | 3.38 (.96)                      | 3.22(.83)                       | 3.14 (.99)                        | .25      | -----                  |
| Sexual intimacy             | 3.25 (1.44)                  | 3.61 (1.26)                     | 3.22 (22.67)                    | 3.43 (.98)                        | .28      | -----                  |
| Ind./Relat.                 | 3.75 (1.18)                  | 4.08 (.86)                      | 3.89 (.93)                      | 3.43 (.53)                        | .73      | -----                  |
| Idealization                | 2.00 (.87)                   | 4.00 (.89)                      | 3.14 (.90)                      | 2.02 (.84)                        | .95      | -----                  |
| Coherence                   | 3.33 (.71)                   | 3.65 (.87)                      | 3.35 (.58)                      | 3.67 (.85)                        | 2.4+     | Sm+Sf>Im+IF            |

\*\*\* p<.001; \*\* p<.01; \* p<.05; + p<.100

**Table 31 – Fathers' Intimate Marital Representation in terms of the couples' attachment constellations**

| Intimate Marital Represent. | Secure mother /Secure father | Secure mother / Insecure father | Insecure mother / Secure father | Insecure mother / Insecure father | F (2,43) |
|-----------------------------|------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------|
|                             | (n=16)                       | (n=13)                          | (n=9)                           | (n=7)                             |          |
|                             | Mean (s.d.)                  | Mean (s.d.)                     | Mean (s.d.)                     | Mean (s.d.)                       |          |
| Emot.Integ.                 | 3.75 (1.00)                  | 3.15 (.55)                      | 3.88 (.83)                      | 3.29 (.76)                        | 1.966    |
| Careseeking                 | 3.3 (1.14)                   | 3.56 (.73)                      | 3.00 (.82)                      | 2.29 (1.70)                       | 1.385    |
| Caregiving                  | 3.56 (.73)                   | 3.00 (.58)                      | 3.38 (1.06)                     | 3.00 (.82)                        | 1.632    |
| Sexual Intimacy             | 3.25 (1.57)                  | 2.85 (1.07)                     | 3.63 (1.19)                     | 2.71 (.76)                        | .924     |
| Individ./Relat.             | 3.94 (.68)                   | 3.38 (.96)                      | 4.00 (.76)                      | 3.71 (.49)                        | 1.596    |
| Idealization                | 2.13 (.89)                   | 2.69 (.95)                      | 2.00 (1.20)                     | 2.29 (.76)                        | 1.191    |
| Coherence                   | 3.50 (1.10)                  | 2.77 (.83)                      | 3.50 (.20)                      | 3.14 (1.07)                       | 1.409    |

\*\*\* p<.001; \*\* p<.01; \* p<.05; + p<.100

## 5.4. Infants Attachment Quality

In order to describe the distribution of the infants' attachment to mother and father of our sample, we proceed to analyses of frequencies for Secure/Insecure groups and Secure (B), Insecure Avoidant (A), Insecure Ambivalent/Resistant (C) patterns (Table 32 and 33).

Concerning infants attachment to mother, 70.2% (n=33) of them were classified as secure in the Strange Situation, whereas 19.1% (n=9) were classified as insecure avoidant, and 10.6% (n=5) as insecure ambivalent/resistant. Based on the infants' *Strange Situation* with fathers, 59.6% (n=28) of babies were classified as secure attached (B). Among the 38.3% (n=18) of insecure attachments, 29.8% (n=14) were classified insecure-avoidant (A) and the remaining 8.5% (n=4) insecure-resistant (C).

**Table 32** – Quality of Infants' attachment to mother

| Secure<br>n (%) | Insecure<br>n (%) |                               |
|-----------------|-------------------|-------------------------------|
| 33 (70.2)       | 14 (29.8)         |                               |
|                 | Avoidant<br>n (%) | Ambivalent/Resistant<br>n (%) |
|                 | 9 (19.1)          | 5 (10.6)                      |

**Table 33** – Quality of Infants' attachment to father

| Secure<br>n (%) | Insecure<br>n (%) |                               |
|-----------------|-------------------|-------------------------------|
| 28 (59.6)       | 18 (38.3)         |                               |
|                 | Avoidant<br>n (%) | Ambivalent/Resistant<br>N (%) |
|                 | 14 (29.8)         | 4 (8.5)                       |

A Qui-square analysis was carried out in order to assess the association between the infants' attachment quality and infants' gender (Table 34 and 35). No significant associations were found, neither has it when infants were assessed with their mother ( $\chi^2(1)=2.99$ ,  $p=n.s.$ ;  $K=0.210$ ,  $p=n.s.$ ) nor with their father ( $\chi^2(1)=2.23$ ,  $p=n.s.$ ;  $K=0.20$ ,  $p=n.s.$ ).

**Table 34** – Association between infants' gender and their attachment quality with the mother

|        | Secure<br>(n = 33)  | Insecure<br>(n = 14)            |
|--------|---------------------|---------------------------------|
| Male   | 17 (19.7)           | 11 (8.3)                        |
| Female | 16 (13.3)           | 3 (5.7)                         |
|        | Avoidant<br>(n = 9) | Ambivalent/Resistant<br>(n = 5) |
| Male   | 7 (5.4)             | 4 (3.0)                         |
| Female | 2 (3.6)             | 1 (2.0)                         |

Note: Values between brackets represent expected frequencies

**Table 35** – Association between infants' gender and their attachment quality with the father

| Attachment Quality |                      |                                 |
|--------------------|----------------------|---------------------------------|
|                    | Secure<br>(n = 28)   | Insecure<br>(n = 14)            |
| Male               | 14 (16.4)            | 13 (10.6)                       |
| Female             | 14 (11.6)            | 5 (7.4)                         |
|                    | Avoidant<br>(n = 14) | Ambivalent/Resistant<br>(n = 4) |
| Male               | 9 (8.2)              | 4 (2.3)                         |
| Female             | 5 (5.8)              | 0 (1.7)                         |

Note: Values between brackets represent expected frequencies

Two univariate analysis of variance (one-way ANOVAs) were carried out in order to compare the infants' attachment patterns in terms of their age at the time of Strange Situation administration.

Concerning attachment with mothers, the one-way ANOVA revealed significant differences between infants' ages ( $F(2, 44) = 5.94, p = 0.005 < .05$ ). Scheffé post-hoc tests showed that Secure infants, when assessed at the Strange Situation with their mothers, were younger than avoidant and ambivalent infants (Table 36).

**Table 36** – Differences between attachment patterns with mother in terms of infants' age

|                     | Secure<br>(n=33) | Avoidant<br>(n=9) | Ambivalent/Resistant<br>(n=5) | $F(2,44)$    | Scheffé<br>post-hoc tests |
|---------------------|------------------|-------------------|-------------------------------|--------------|---------------------------|
|                     | Mean (s.d.)      | Mean (s.d.)       | Mean (s.d.)                   |              |                           |
| <b>Infants' age</b> | 1.06 (0.12)      | 1.21(0.17)        | 1.23 (0.19)                   | <b>5.94*</b> | A > B*; C > B+            |

\*  $p < .05$ ; +  $p < .10$

Regarding the attachment with fathers, the one-way ANOVA revealed only marginal significant differences between infants' ages ( $F(2, 43) = 3.06, p = .06 > 0.05$ ). Scheffé post-hoc tests showed that Secure infants, when assessed at the Strange Situation with their fathers, were marginally younger than avoidant infants were (Table 37).

**Table 37** – Differences between attachment patterns with father in terms of infants' age

|              | Secure<br>(n=28)<br>Mean (s.d.) | Avoidant<br>(n=14)<br>Mean (s.d.) | Ambivalent/Resistant<br>(n=4)<br>Mean (s.d.) | <i>F</i> (2,44) | Scheffé<br>post-hoc tests |
|--------------|---------------------------------|-----------------------------------|--|-----------------|---------------------------|
| Infants' age | 1.26 (0.15)                     | 1.15 (0.16)                       | 1.30 (0.08)                                  | 3.06+           | A < B <sup>+</sup>        |

+ p&lt;.10

Four univariate analysis of variance (one-way ANOVAs) were carried out in order to compare the infants' attachment patterns in terms of their parents' age and socio economic status (Table 38 and 39). Concerning the mothers' and fathers' age, each of the one-way ANOVAs revealed no significant differences between infants' attachment patterns (mother:  $F(2,42)=1.30$ ,  $p=n.s.$ ; father:  $F(2,43)=.17$ ,  $p=n.s.$ ). As for the family socio economic status, the same procedure still revealed no significant differences between infants' attachment patterns (mother:  $F(2,41)=1.03$ ,  $p=n.s.$ ; father:  $F(2, 42)=.81$ ,  $p=n.s.$ ).

**Table 38** – Differences of infants' attachment pattern in terms of mothers' age and socio economic status

|                             | Secure<br>(n=33)<br>Mean (s.d.) | Avoidant<br>(n=9)<br>Mean (s.d.) | Ambivalent/Resistant<br>(n=5)<br>Mean (s.d.) | <i>F</i> (2,43) |
|-----------------------------|---------------------------------|----------------------------------|--|-----------------|
| Infants' age                | 34.19 (4.73)                    | 31.90 (4.10)                     | 31.37 (5.08)                                 | 1.30            |
| Family socio-economic level | 1.91 (1.18)                     | 2.44 (1.01)                      | 2.00 (.82)                                   | 1.03            |

\* p&lt;.05; + p&lt;.10

**Table 40** – Differences of infants' attachment pattern in terms of fathers' age and socio economic status

|                             | Secure<br>(n=33)<br>Mean (s.d.) | Avoidant<br>(n=9)<br>Mean (s.d.) | Ambivalent/Resistant<br>(n=5)<br>Mean (s.d.) | <i>F</i> (2,42) |
|-----------------------------|---------------------------------|----------------------------------|--|-----------------|
| Infants' age                | 32.17 (7.32)                    | 31.48 (9.11)                     | 34.00 (0.82)                                 | .17             |
| Family socio-economic level | 2.11(1.19)                      | 2.08 (1.12)                      | 1.25 (.50)                                   | .81             |

\* p<.05; + p<.10

### 5.5. Relation between Infants' Attachment Quality and their Parents Attachment Representations

Table 40 presents concordance between infants' attachment groups and their mothers' attachment groups

**Table 40** - Concordance between infants' attachment groups and their mothers' attachment groups

| Mothers \ Infants          | Secure<br>(n=28) | Dismissing<br>(n=4) | Preoccupied<br>(n=13) |
|----------------------------|------------------|---------------------|-----------------------|
| Secure (n=33)              | <b>18 (20.2)</b> | 4 (2.8)             | 10 (9.0)              |
| Avoidant (n=14)            | 7 (5.7)          | <b>0 (.8)</b>       | 2 (2.5)               |
| Ambivalent/Resistant (n=5) | 4 (3.2)          | 0 (.4)              | <b>1 (1.4)</b>        |

Mothers Secure/Insecure → Infants Secure/Insecure

$\chi^2(1) = 2.08$  (n.s.);  $K = .17$  (n.s)

Note: Values between brackets represent expected frequencies

No significant association was found between the mothers' attachment representations and the infants' Strange Situation classification. This was true whether we considered the three attachment patterns' classification or the security versus insecurity distinction. In terms of the three attachment patterns' classification, a correspondence in 19 cases (42.2%) (*versus* 49.8%,  $n=22.4$  of expected correspondence) was observed. For the security versus insecurity distinction, a correspondence between mothers and infants' classification was observed in 21 cases, that is 46.7% of the participants (*versus* 56.4%,  $n=25.4$  of expected correspondence) ( $\chi^2(1)=2.08$ ,  $p=n.s.$ ,  $K=.17$ ,  $p=n.s.$ ).

Table 41 presents the concordance between infants' attachment groups and their fathers' attachment groups.

**Table 41** – Concordance between infants' attachment groups and their fathers' attachment groups

|                                | Fathers | Secure           | Dismissing     | Preoccupied   |
|--------------------------------|---------|------------------|----------------|---------------|
| Infants                        |         | ( $n=28$ )       | ( $n=4$ )      | ( $n=13$ )    |
| Secure ( $n=33$ )              |         | <b>15 (14.4)</b> | 9 (9.6)        | 3 (3.0)       |
| Avoidant ( $n=14$ )            |         | 8 (7.5)          | <b>5 (5.0)</b> | 1 (1.6)       |
| Ambivalent/Resistant ( $n=5$ ) |         | 1 (2.1)          | 2 (1.4)        | <b>1 (.4)</b> |

Fathers Secure/Insecure → Infants Secure/Insecure

$\chi^2(1) = .13$  (n.s.);  $K = -.05$  (n.s.)

Note: Values between brackets represent expected frequencies

No significant association was found between the fathers' attachment representations and the infants' Strange Situation classification. This was true whether we considered the three attachment patterns' classification or the security versus insecurity distinction. In terms of the three attachment patterns' classification, a correspondence in 21 cases (46.7%) (*versus* 44%,  $n=19.8$  of expected correspondence) was observed ( $\chi^2(1)=1.83$ ,  $p=n.s.$ ;  $K$  Kowan = .018,  $p=n.s.$ ). For the security versus insecurity distinction, a correspondence between fathers and infants' classification was observed in 24 cases, that is 53.3% of the participants (*versus* 50.7%,  $n=22.8$  of expected correspondence) ( $\chi^2(1)=.13$ ,  $p=n.s.$ ,  $K = -.05$ ,  $p=n.s.$ ).

Two MANOVAs analyses were performed in order to compare the parents' attachment strategies in terms of their infants' attachment groups (Table 42 and 43). Consistently with the results above, for mothers as for fathers' attachment strategies, each of the MANOVAs revealed no significant differences between their infants attachment groups (Mother Security-Insecurity:  $F(1,45)=1.05$ ,  $p=n.s.$ ; Father Security-Insecurity:  $F(1,45)=1.03$ ,  $p=n.s.$ ; Mother Deactivation-Hyperactivation:  $F(1,45)=.18$ ,  $p=n.s.$ ; Father Deactivation-Hyperactivation:  $F(1,45)=.07$ ,  $p=n.s.$ ).

The infants' strange situation subscales and their mothers and fathers' attachment mega-items in our sample are not correlated.

**Table 42** –Differences between infants' attachment groups in terms of their mothers' attachment strategies

| Attachment Strategies        | Secure                | Isecure               | <i>F</i> (2,45) |
|------------------------------|-----------------------|-----------------------|-----------------|
|                              | (n=33)<br>Mean (s.d.) | (n=14)<br>Mean (s.d.) |                 |
| Security-Insecurity          | .43 (.49)             | .24 (.60)             | 1.05            |
| Deactivation-Hyperactivation | -.11 (.29)            | -.14 (.13)            | 1.03            |

**Table 43** –Differences between infants' attachment groups in terms of their fathers' attachment strategies

| Attachment Strategies        | Secure                | Isecure               | <i>F</i> (2,45) |
|------------------------------|-----------------------|-----------------------|-----------------|
|                              | (n=28)<br>Mean (s.d.) | (n=18)<br>Mean (s.d.) |                 |
| Security-Insecurity          | .22 (.61)             | .17 (.67)             | .18             |
| Deactivation-Hyperactivation | .06 (.31)             | .09 (.23)             | .07             |

One Qui-square analysis was carried out in order to compare the infants' attachment quality with the mother and their attachment quality with the father (Table 44).

**Table 44 – Association between infants' attachment groups and their fathers' attachment groups**

|                            | SE Mother | Secure           | Dismissing     | Preoccupied   |
|----------------------------|-----------|------------------|----------------|---------------|
| SE father                  |           | (n=28)           | (n=4)          | (n=13)        |
| Secure (n=33)              |           | <b>23 (19.5)</b> | 4 (5.5)        | 1 (3.0)       |
| Avoidant (n=14)            |           | 5 (2.7)          | <b>6 (9.7)</b> | 3 (1.5)       |
| Ambivalent/Resistant (n=5) |           | 3 (2.8)          | 0 (.8)         | <b>1 (.4)</b> |

Mothers Secure/Insecure → Fathers Secure/Insecure

$\chi^2(1) = 5.35^*$ ;  $K = .34^*$

\*  $p < .05$

Note: Values between brackets represent expected frequencies

For the security versus insecurity distinction, a correspondence between mothers and infants' classification was observed in 32 cases, that is 71.1% of the participants (*versus* 63.3%,  $n=28.5$  of expected correspondence) ( $\chi^2(1)=5.35$ ,  $p=.02 < 0.05$ ,  $K=.34$ ,  $p=.021 < 0.05$ ). In terms of the three attachment patterns' classification, a correspondence in 30 cases (66.7%) (*versus* 65.8%,  $n=29.6$  of expected correspondence) was observed.

A three-way loglinear analysis was performed in order to explore associations between the several constellations of the three family members' attachment\_agreement, that is: a) Mother and father attachment combinations (independent variables) with infant attachment to mother or to father (output variable).

Table 45 presents the most significant results of the loglinear analysis is the association between the fathers' attachment and the concordance between the infants' attachment to mother and to father ( $\chi^2(1)=8.94, p=.003<.01$ ). Infants secure attached with both parents have more frequently secure fathers than have infants secure attached to mother but insecure attached to father. The mother's attachment representation did not evidence any significant association with the concordance between baby's attachment with the mother or with the father ( $\chi^2(1)=1.76, p=n.s.$ ) (Table 46).

**Table 45** – Association between fathers' attachment and infants-mothers' attachment and infants-fathers' attachment.

| Infants' Attachment |                 | Father Attachment |                 | $\chi^2$                               |
|---------------------|-----------------|-------------------|-----------------|--|
| to mother           | to father       | Secure (n=25)     | Insecure (n=21) |  |
| Secure (n=33)       | Secure (n=28)   | 14                | 8               | 8.94**<br>Sbm+Sbf+Sf > Sbm+lbf+ Sf (a) |
|                     | Insecure (n=18) | 3                 | 6               |  |
| Insecure (n=14)     | Secure (n=28)   | 1                 | 4               |  |
|                     | Insecure (n=18) | 6                 | 3               |  |

\*\* p<.01

(a) : Sbm –Secure Infant with mother, Sbf – Secure Infant with father, lbf – Insecure Infant with father, Sf – Secure father.

**Table 46** - Association between mothers' attachment and infants-mothers' attachment and infants-fathers' attachment.

| Infants' Attachment |                 | Mother attachment |                 | $\chi^2$ |
|---------------------|-----------------|-------------------|-----------------|----------|
| to mother           | to father       | Secure (n=29)     | Insecure (n=17) |          |
| Secure (n=33)       | Secure (n=28)   | 11                | 11              | 1.76     |
|                     | Insecure (n=18) | 6                 | 3               |          |
| Insecure (n=14)     | Secure (n=28)   | 3                 | 2               |          |
|                     | Insecure (n=18) | 8                 | 1               |          |

Of special interest is also the association of the fathers' attachment representations and the generational concordance between mothers' attachment and infants' attachment to them ( $\chi^2(1)=3.61$ ,  $p=.05$ ) (see Table 47). The mothers' attachment representation did not evidence any association with the concordance between infant's attachment to mother and to father ( $\chi^2(1)=1.70$ ,  $p=n.s.$ ) nor on the fathers' attachment intergenerational concordance with their infants' attachment ( $\chi^2(1)=.38$ ,  $p=n.s.$ ) (see Table 48).

**Table 47** – Association between fathers' attachment and infants-mothers attachment generational concordance

| Mothers' attachment | Infants' attachment with mother | Fathers' attachment |                 | $\chi^2 (1)$                       |
|---------------------|---------------------------------|---------------------|-----------------|------------------------------------|
|                     |                                 | Secure (n=25)       | Insecure (n=21) |                                    |
| Secure (n=29)       | Secure (n=33)                   | 11                  | 6               | 3.61*<br>Sm+Sbm+Sf > Sm+Sbm+If (a) |
|                     | Insecure (n=14)                 | 3                   | 8               |                                    |
| Insecure (n=17)     | Secure (n=33)                   | 11                  | 3               | Im+Sbm+Sf > Im+Sbm+If              |
|                     | Insecure (n=14)                 | 2                   | 1               |                                    |

\*  $p < .05$

(a) Sm – Secure Mother, Im – Insecure mother, Sbm – Infant secure with mother, Sf – Secure father, If – Insecure father.

**Table 48** – Association between mothers' attachment and infants-fathers attachment generational concordance

| Fathers' attachment | Infants' attachment with father | Mothers' attachment |                 | $\chi^2 (1)$ |
|---------------------|---------------------------------|---------------------|-----------------|--------------|
|                     |                                 | Secure (n=29)       | Insecure (n=17) |              |
| Secure (n=25)       | Secure (n=28)                   | 8                   | 7               | .48          |
|                     | Insecure (n=18)                 | 5                   | 6               |              |
| Insecure (n=21)     | Secure (n=28)                   | 7                   | 2               |              |
|                     | Insecure (n=18)                 | 7                   | 2               |              |

In order to assess significant differences between the mothers' and fathers' attachment strategies according to the different generational attachment dyadic constellations, a MANOVA analysis was also carried out, but no significant differences were found (father: Wilks' Lambda = .91,  $p=n.s.$ ; mother: Wilks' Lambda = .84,  $p=n.s.$ ).

## 5.6. Relation between Infants' Attachment Quality and their Parents' Intimate Marital Representations

Two MANOVAs analysis were performed in order to compare infants' attachment quality with the mother and with the father in terms of their parents Intimate Marital Representations (Table 49 and 50). Regarding infants' attachment with mothers, this analysis revealed that the mothers of insecure infants look for the care of their husbands in a marginal more elevated way than the mothers of the Secure infants do ( $F(1,46)=2.85$ ,  $p=.098<.10$ ). In respect to the infants' attachment to fathers, the MANOVA did not revealed significant differences between the several fathers' IRI scales and their infants' attachment patterns.

Pearson correlations between the infants' attachment subscales with each parent and their Intimate Marital Representations revealed no significant correlations between these dimensions.

**Table 49–** Mothers' intimate marital representations and infants' attachment quality

| Infants' Attachment \ Mothers' IRI | Secure                | Insecure              | <i>F</i> (1, 46) |
|------------------------------------|-----------------------|-----------------------|------------------|
|                                    | (n=33)<br>Mean (s.d.) | (n=14)<br>Mean (s.d.) |                  |
| Emotional Integration              | 3.58 (.66)            | 3.57 (1.09)           | .00              |
| Careseeking                        | 3.45 (1.00)           | 4.00 (1.03)           | 2.85+            |
| Caregiving                         | 3.36 (.74)            | 3.21 (1.05)           | .308             |
| Sexual Intimacy                    | 3.45 (1.00)           | 3.00 (1.57)           | 1.42             |
| Individual /Relationship           | 3.91 (.81)            | 3.50 (1.29)           | 1.75             |
| Idealization                       | 3.88 (.97)            | 4.14 (.86)            | .99              |
| Coherence                          | 3.64 (.82)            | 3.79 (.97)            | .30              |

+  $p<.100$

**Table 50** – Fathers' intimate marital representations and infants' attachment quality

| Infants' Attachment      | Secure      | Insecure    | <i>F</i> (1, 45) |
|--------------------------|-------------|-------------|------------------|
|                          | (n=28)      | (n=18)      |                  |
| Fathers' IRI             | Mean (s.d.) | Mean (s.d.) |                  |
| Emotional Integration    | 3.52 (.80)  | 3.44 (.86)  | .09              |
| Careseeking              | 3.04 (1.19) | 2.89 (1.32) | .16              |
| Caregiving               | 3.33 (.88)  | 3.17 (.62)  | .49              |
| Sexual Intimacy          | 3.07 (1.38) | 3.11 (1.08) | .01              |
| Individual /Relationship | 3.63 (.79)  | 3.83 (.79)  | .71              |
| Idealization             | 3.85 (.99)  | 3.39 (.92)  | 2.50             |
| Coherence                | 3.19 (1.04) | 3.22 (1.06) | .01              |

Two multivariate analysis of variance (MANOVAs) were carried out in order to compare the mothers' and the fathers' Intimate Marital Representation with the infant-mother and infant-father attachment groups. For these analyses, we use the new set of variables created to translate the concordance between the parental dyads attachment quality: a) Mother and infant attachment quality (non)concordance; b) Father and infant attachment quality (non)concordance.

Concerning mothers, the MANOVA revealed differences between the IRI scales according to the infants-mothers' attachment groups (Wilks' Lambda = .439,  $p = .05$ ). The Univariate analysis, followed by the Scheffé post-hoc tests, allowed us to identify that the mothers of dyads in which the infant and the mother, both have a Secure attachment, are significantly more coherent in their marital narratives than the dyads in which the infant is Secure but the mother is insecure ( $F(3,42) = 3.91$ ,  $p = .02 < .05$ ) (see Table 51).

**Table 51 – Mothers’ Intimate Marital Representation in terms of the mother-infant attachment quality**

|   | Sec.moth.                           | Sec. Moth.                             | Insec. Mot.                          | Insec. Moth.                          |                    |                            |
|---|-------------------------------------|--|--------------------------------------|---------------------------------------|--------------------|----------------------------|
| Mothers’ Intimate Marital Representations | /Sec.infant<br>(n=17)<br>Mean(s.d.) | /Insec.infant<br>(n=12)<br>Mean (s.d.) | /Sec.infant<br>(n=14)<br>Mean (s.d.) | /Insec.infant<br>(n=3)<br>Mean (s.d.) | <i>F</i><br>(3,42) | Scheffé post-hoc tests     |
| Emotional Integration                     | 3.82 (.73)                          | 3.5 (1.17)                             | 3.36 (.50)                           | 3.67 (.58)                            | .92                | -----                      |
| Careseeking                               | 3.35(1.11)                          | 3.83 (1.03)                            | 3.64 (1.01)                          | 4.00 (1.00)                           | .66                | -----                      |
| Caregiving                                | 3.53 (.80)                          | 3.08 (.99)                             | 3.21 (.69)                           | 3.67 (.15)                            | .89                | -----                      |
| Sexual Intimacy                           | 3.76 (.97)                          | 2.92 (1.68)                            | 3.14 (.77)                           | 4.00 (.00)                            | 1.83               | -----                      |
| Individual /Relationship                  | 4.12 (.78)                          | 3.50 (1.38)                            | 3.64 (.63)                           | 4.33 (.58)                            | 1.51               | -----                      |
| Idealization                              | 1.88 (.78)                          | 1.92 (.90)                             | 2.36 (.84)                           | 1.67 (.58)                            | 1.18               | -----                      |
| Coherence                                 | 4.00 (.79)                          | 4.00 (.85)                             | 3.14 (.66)                           | 3.33 (1.15)                           | <b>3.91*</b>       | <b>Sm+Sb&gt;Im+Sb* (a)</b> |

\* p<.05

(a) : Sm- Secure mothers, Im – Insecure mothers, Sb – Secure infants.

In table 52 we may see that for fathers' Intimate Marital representations we have also found significant differences between the different infant-father's attachment constellations (Wilks' Lambda = .42; p=.05). In this case, the Univariate analysis, followed by the Scheffé post-hoc tests, revealed that Secure fathers with infants securely attached to them have lower levels of idealisation than insecure infant-father dyads ( $F(2,43)= 29.0, p=.05$ ).

**Table 52 – Fathers' Intimate Marital Representation in terms of the mother-infant attachment quality**

|                          | Sec.fath.   | Sec. fath.    | Insec. fath. | Insec. fath.  |          |
|--------------------------|-------------|---------------|--------------|---------------|----------|
| Fathers'                 | /Sec.infant | /Insec.infant | /Sec.infant  | /Insec.infant | <i>F</i> |
| Intimate Marital         | (n=13)      | (n=8)         | (n=14)       | (n=9)         | (2,43)   |
| Representations          | Mean(s.d.)  | Mean (s.d.)   | Mean (s.d.)  | Mean (s.d.)   |          |
| Emotional Integration    | 3.62 (.96)  | 3.75 (.89)    | 3.43 (.65)   | 3.11 (.78)    | 1.03     |
| Careseeking              | 3.46 (1.13) | 2.88 (1.25)   | 2.57 (1.09)  | 2.89 (1.54)   | 1.21     |
| Caregiving               | 3.62 (.96)  | 3.3 (.46)     | 3.07 (.73)   | 3.00 (.71)    | 1.56     |
| Sexual Intimacy          | 3.46 (1.56) | 3.00 (1.31)   | 2.57(1.09)   | 3.33 (.87)    | 1.31     |
| Individual /Relationship | 3.69 (.75)  | 4.25 (.46)    | 3.64 (.84)   | 3.44 (.88)    | 1.70     |
| Idealization             | 1.85 (.99)  | 2.25 (.71)    | 2.43 (.94)   | 2.78 (.97)    | 1.94     |
| Coherence                | 3.38 (1.19) | 3.63 (.92)    | 3.00 (.88)   | 2.89 (.17)    | 1.01     |

## Summary of the research findings

As we could see above, the mothers (61.7%) and the fathers (53.2%) of our sample evidence higher percentages of Secure attachment than of insecure one. When the three patterns are considered, the insecure fathers are mainly avoidant (34.0%), but mothers are more frequently assessed as Preoccupied-Enmeshed (27.7%). The Preoccupied-Enmeshed fathers are lower in number among men (10.6%) and the avoidant mothers are the less frequent group (8.5%). Avoidant mothers of our sample tend to have a higher socio economic level than Preoccupied-Enmeshed ones. Considering, both mothers and fathers attachment strategies, as expected, the Secure groups have, higher levels of security than the two other patterns and the Dismissing parents have a higher level of deactivation than the other ones.

Secure mothers have more coherent attachment narratives and representations of their parents as more available in infancy than Dismissing or Preoccupied-Enmeshed mothers. They also represent their mothers as a better Secure base than the Preoccupied-Enmeshed mothers do. Preoccupied-Enmeshed mothers have representations of more family disruption than Secure ones. They also have higher levels on the Preoccupied mega-item than have Secure or Dismissing female participants. The Secure fathers of our sample, when compared with Dismissing or Preoccupied-Enmeshed men, are also more coherent in their attachment narratives, have representations of less harsh fathers and have lower levels in the Dismissing and Preoccupied mega-items. They also represent their mothers as more available in infancy than Dismissing fathers, which were the ones that, naturally, have higher levels in the Dismissing mega-items when compared to all men.

Secure mothers were found to be not only more coherent in their marital narratives, but also as having higher representations of emotional integration and less idealization than insecure women have. The more coherent women with regard to marital relationship are also the more coherent women on attachment narrative and the ones that possess higher levels of attachment security. The coherence on marital narrative is the scale more frequently associated with the mothers' attachment mega-items (it is associated with all mega-items except with the paternal ones (father availability and harsh father).

Intimate marital representations analyses have show that Secure fathers have higher representations in marital caregiving and emotionally integration than Insecure men have. A positive association between the coherence marital scale and the coherence attachment mega-item was also found. The attachment coherence narrative for men was the most relevant dimension: the more coherent fathers regarding attachment organisation are the ones who have representations of a higher marital emotional integration and marital caregiving, have a better marital narrative coherence and a lower marital idealisation. The marital caregiving dimension was the marital scale of more relevance among the fathers of our sample. Both fathers' attachment strategies (Security and Dismissing) are highly associated with the fathers' marital scales.

In general, the mother marital representations and the ones of the fathers are associated. The mothers and fathers' representations of Emotional Integration and Sexual Intimacy are associated between them. However, the parents' marital representations are not directly associated with their infant's attachment, neither with the father nor with the mother.

The infants of our sample have a Secure attachment in a higher percentage, either with their mothers (70.2%) or with their fathers (59.6%). When the three patterns are to be considered, the insecure groups have a majority of avoidant infants, both when attachment to mother (19.1%) or to father (29.8%) is assessed. The ambivalent/resistant children are the lower in number (10.6% with mother and 8.5% with father). We find no significant gender effects on the infants' attachment to mother or to father, but secure infants tend to be younger than avoidant and ambivalent ones when they were assessed with each parent.

The generational concordance between the attachment quality of the parents and the one of their sons and daughters was not statistically significant. However, the percentage of Secure infants with Secure mothers (39%) and of Secure infants with Secure fathers (33%) is always superior to any other kind of dyadic attachment combination. Secure infants with mother have more tendency to have a Secure attachment pattern also with their fathers than an insecure one. Mothers and fathers' attachment organisation did not correlate in a significant way in our sample. However, as for the intergenerational agreement, the percentage of Secure mothers with Secure husbands (34.8%) is superior to any other kind of dyadic attachment combination.

Securely attached Infants with both parents have more frequently secure fathers than infants securely attached with mother but insecurely attached with father. Secure mothers with infants securely attached to them tend to have Secure fathers in the family. In our sample, insecure mothers with infants securely attached also tend to have more frequently secure husbands. This father's attachment association with the attachment generational concordance between mothers and their infants was not observed on the symmetric side (i.e., from the mother's attachment to the father-infant attachment generational concordance).

The mothers of the dyads secure-infant-secure-mother are more coherent in their marital narratives than the dyads secure-infant-secure-mother. Finally, Secure fathers with infants securely attached to them have lower levels of idealisation than insecure-infant-insecure -father dyads.

In regard to the particular relation between parents' attachment and marital coherence, as it would be theoretically and empirically expected, Secure mothers and fathers are more coherent in their attachment narrative. Secure mothers were also found to be more coherent in their marital narratives. The coherence on marital narrative was the scale more frequently associated with the mothers' attachment mega-items, since it is correlated with all mega-items except with the paternal ones (father availability and harsh father). The fathers' coherence in attachment narratives seem the most relevant dimension for men: those fathers who, regarding attachment organisation, are more coherent, are also the ones who have a higher level of marital emotional integration, provide higher spouse caregiving, have a marital narrative more coherent and, what is more, have a lower marital idealisation. Of great relevance is also the evidence that the mothers of the dyads in which the infant and the mother have, both, a secure attachment, are more coherent in their marital narratives than the dyads in which the infant is secure but the mother is insecure.

## Chapter VI – Discussion and Conclusion

The goal of the present study was to examine the attachment intergenerational concordance between the infants' attachment quality and their parents' attachment representations. The study of the association between the parents' attachment representations, the couple's intimate representations, and the attachment generational concordance, was also one of our aims. The role of parents' attachment and intimate marital narratives coherence on these associations was explored with particularly emphasis.

In the following paragraphs, we will discuss the reasons for the presence or absence of attachment generational concordance, depending on the attachment representations themselves or related to the intimate marital representations. First, we will focus separately on the adults' and infants' results. This preliminary approach will serve as grounds for the discussion of the association between the parental factors and the attachment generational concordance, considering both the influences of the attachment representations and of intimate marital representations. We therefore present a correlational explanation that articulates our results with other literature findings that, like we do, sustain the relevance of the parental narrative coherence and the family interaction effects for the understanding of the attachment transgenerational processes. We conclude with a speculative model that aims to contribute to the theoretical explanation of this complex multi-factorial process, as well as with some clinical and research proposals for the future.

## **Mother and father attachment representations**

Considering the parents' attachment distributions, 61.7% of the mothers were classified as secure autonomous in the *Adult Attachment Interview*, whereas 9.6% were classified as insecure dismissing, and 28.7% as insecure preoccupied-enmeshed. Fathers classifications show that 53.2% were classified as secure autonomous, whereas 35.1% were classified as insecure dismissing, and 11.6% as insecure preoccupied-enmeshed. The avoidant mothers of our sample tend to have a higher socio economic level than the preoccupied-enmeshed ones. When considering exclusively the secure-insecure attachment distribution of our sample, the current study fits into the proportions found in earlier studies, (cf. van Ijzendoorn & Bakermans-Kranenburg's meta-analysis (1996): 58% of secure mothers, 62% of secure fathers). When the three patterns are considered, the insecure mothers of our sample were classified more frequently as preoccupied-enmeshed (28.7%) than as dismissing (9.6%), which is not frequently observed in other studies (in van Ijzendoorn & Bakermans-Kranenburg's meta-analysis (1996), 58% of the mothers were classified as secure/autonomous, 24% as dismissing and 18% as preoccupied). Probably, the distribution of attachment patterns in the current study reflects specific properties of the sample. In fact, participants' age, children, time, culture and the steadiness of the couple relationships are expected to influence attachment and sample distributions (Bartholomew & Horowitz; 1991; Kobak & Hazan, 1991; Davila et al., 1999). We will come back to this topic and discuss further this result in the next sections of this chapter.

## **Mother and father attachment and intimate marital representations**

The association between the parents' attachment and their intimate marital representations in our study showed that the more coherent women and men are with regard to the marital relationship, the more coherent are the participants in their attachment narrative. Whilst, for mothers, the coherence on marital narrative was more frequently associated with the attachment mega-items, for fathers, the attachment coherence narrative was the one that was more frequently associated with the intimate marital representations. These results are congruent with other researches in the field, suggesting that individuals with secure and therefore congruent working models exhibit better functioning in marital or romantic relationships than those with insecure attachment models (Cohn, Silver, Cowan, Cowan, & Pearson, 1992; Owens, 1997). Because a secure attachment, by definition, implies some understanding

and acceptance of the other's imperfections, it might allow spouses to regard their marriages in a more positive way. Inversely, an insecure attachment characterised by less coherent perspective on attachment relationships may leave spouses vulnerable to viewing their marriages more negatively, especially in moments of stress, as in the case of the family's transition to parenthood. The notion that a secure attachment may allow individuals to retain positive views of their relationships, despite increased stress, has clearly received theoretical consideration, yet there is little empirical data supporting this notion so far (Paley, Cox, Martha, Harter, & Margand, 2002).

Generally, the mothers' and the fathers' marital representations were related in our study. Both their representations of marital emotional integration and sexual intimacy were correlated amongst them, evidencing the couple's congruent perception of their marital relationships. Women report, however, more marital careseeking and have a more coherent marital narrative than their husbands do. Among fathers, attachment mega-items are more frequently associated with their marital caregiving dimension. Secure fathers also represent themselves as better caregivers for their wives and as having higher levels of emotional integration than those of the insecure men. The relevance of the caregiving and care seeking dimensions evidenced in our study, reports us to Collins and Feeney's (2000) attachment perspective that considers support seeking and caregiving as essential in intimate relationships. For these authors, social support is an interpersonal transactional process that implies the effects of a partner's support seeking and the other's caregiving responses. One contribution to the feeling of emotional well-being comes from having an accessible attachment figure that may be used, if and when necessary, as a safe haven. In particular, our results point to eventual stereotypical differences associated with the role of men as the women's caregivers that, in turn, search more easily for their husband's support.

### **Infant attachment quality**

The results regarding infant attachment quality evidenced that 72% of the infants of our sample have a secure attachment with their mothers and that 59.6% of them are securely attached to their fathers. When the three patterns are to be considered, the insecure groups have a majority of avoidant infants, both with the mother (19.1%) and the father (29.8%). We find no significant gender effects on the infant attachment to mother or to father, but secure infants tend to be younger than avoidant and ambivalent ones when assessed with each parent. Such results are convergent with others from studies carried out

in several countries with low risk samples, pointing to percentages between 50% and 70% of secure infants with mothers (see van Ijzendoorn & Kranenburg's meta-analysis, 1988). As for infant attachment to the father, the distributions tend to be equivalent to the ones of attachment to the mother. These results are also convergent with other Portuguese ones, namely those of Soares and cols. (1995) with 69% of infants securely attached to the mother.

### **Attachment Intergenerational Concordance**

Contrary to our expectations, we did not find generational concordance at a significant level in our low risk sample. For the security versus insecurity distinction, a correspondence between mother and infant classification was observed in 46.7% of the participants. In terms of the three-attachment pattern classification, a correspondence was found in 42.2%. Concerning fathers, for the security versus insecurity groups, a correspondence between father and infant classifications was observed in 53.3% of the participants. In terms of the three-attachment pattern classification, a correspondence was found in 46.7%.

Although the literature mostly indicates a correspondence of attachment between generations, we can also find cases in which, like in our sample, this tendency is not confirmed (cf. review of Belsky, 1999). The inter-generational transmission seems to be more modest in normative samples that are characterized by rapid changes in the living conditions across generations. In this case, one would expect the self-organisational capacity of the systems (pressured by external factors) to promote changes in the interpersonal dynamics of its members, in a way sufficient enough to carry out a change in the style of the individual's representation, thus interrupting the intergenerational cycle.

Had we not analysed systematically the parents' AAI experiential data, it would still be easy to identify some significant cultural changes at the second-generation level that occurred in the political context of our country. We refer to the fact that a significant proportion of our parents were born in the countryside in the north of Portugal, and some of them in a very rural environment. With the transition from a dictatorship to a democratic regime, in the year of 1974, some of these parents have had access to more educational opportunities and, consequently, to intellectual valorisation. Because most of them were from wealthy families, they sent their sons and daughters (our parents) to the urban poles, namely

to the city of Oporto, so that they could proceed their studies and their professional lives. The lack of influence of the subject's educational level on the AAI coding was confirmed by our results, since the subjects that we are now discussing were indeed insecure in their attachment working models despite their cultural and educational improvement. Although we did not evaluate the parental practices, it seems quite intuitive to accept that these contextual and intellectual changes may have influenced the caregivers' parental practices; which has natural repercussions in the increasing of security at the third generational level.

We found more preoccupied women than it is usually seen in other normative samples (van Ijzendoorn & Bakermans-Kranenburg's meta-analysis, 1996). These preoccupied mothers were more coherent than the dismissing ones, at a significant level. The preoccupied men in our sample are also more coherent than the dismissing ones, but they are less frequent than the dismissing men. This may be due to one effect of the gender differences regarding the attachment transmission process, and we will discuss this topic bellow.

The mothers and fathers' attachment representations did not correlate in a significant way in our sample. Considering along with the fact that the couples intimate representations were strongly associated (namely for the scales of emotional integration and, sexual intimacy), this led us to emphasize the relationship specificity of attachment working models, commonly present in the literature. In other words, even if the attachment representations of each member of the couple are not related to each other, because they refer to the individual's past attachment experiences with his own family of origin, when it comes to the reciprocal attachment relationship with the current partner, the couples in our sample, in general, have congruent mental representations of this same relationship.

In order to understand the associations of parents' attachment, intimate marital representations and the infant's attachment generational concordance with their mother and father, we conceived dyadic attachment constellations constructed from the categorical designations for each family member. These analyses have showed that infants securely attached to both parents have also, more frequently, secure fathers than infants securely attached to the mother but insecurely attached to the father. Also of special interest to our research is the "fact" that insecure mothers having secure infants attached to them, tend to have secure husbands. This father attachment association with the attachment concordance between mother and infant was not observed in the symmetric side of the couple relationship (i.e., an influence of the mother's attachment on the father-infant attachment concordance was not found). Cowan, and Cowan, (2005) have also showed that the pairing of attachment security in husbands and wives makes

a difference. In their study, when both partners had secure working models of attachment, their observed marital interaction and parent – child relationships were highly positive. When both partners had insecure working models of attachment, observed marital interaction and parent – child relationships were quite negative. When husbands were characterized as secure and their wives were not, both marital and parent – child relationships were positive, and indistinguishable from the secure – secure pairings. Husbands' security of attachment was able to protect against the negative impact of wives' insecure attachment. When wives were characterized as secure and their husbands were not, their interactions as a couple and with their children were negative. In other words, similarly to the families in our sample, these couples' wives' security of attachment did not provide a buffer for their husbands' insecure models of relationships in terms of keeping the marital or parent – child relationship quality more positive.

Altogether our results lead us to delineate some important conclusions: not only have we found that the father seem to buffer insecurity "transmission" between mother and infant, but we have seen that he may be impeding the generalisation of the infant's insecurity with the mother to an insecure attachment with the father and, maybe, to a future insecure unified attachment working model. This last result, together with Fonagy and cols.' (1995) resilience studies carried out with children, suggests that, even when the child has only one secure relationship, this one may be sufficient to develop his own reflective processes (Fonagy et al., 1995). Clearly, we could not evaluate the infant's reflective function at this age, but we may be dealing with an "embryonal" reflective function that shall develop into a real reflective function later on. However, we should point out that in our sample, the mother's security, once again, did not have this protector effect regarding the generalisation of the infant's insecurity to father. This has natural consequences for family therapies that imply the involvement of fathers in the therapeutic process (Tereno, Soares, Martins, Celani, & Sampaio, 2008).

Our findings are also consistent with Kobak's (2003) proposition that *"change in families is most likely to occur when the caregiver establishes greater confidence in the availability of another adult"* (p.158). Caring for children occurs in the context of the parents' relationships with other adults. Cooperative sharing of caregiving responsibilities, designated by Kobak as *caregiving alliance*, can either support or undermine the caregiver's capacity to care for children. Security and cooperation in one system can enhance functioning in the others. Alternatively, distress in one subsystem can "leak" into the others and may divert attention from the source of difficulty. This can be understood by analysing the competition between the individual's core motivational systems and their biological function (Cassidy, 1999). The caregiving system is thought to be of complementary function to the attachment system. The caregiving

system promotes a sensitivity to the child's signals that complements the child's need to experience the parent as available and responsive. At the most basic level, parental sensitivity depends on the ability to attend to the child's signals (Crowel & Feldman, 1988). However, competing demands between the parent's caregiving system and his own attachment system may separate physically and emotionally the parent from the child, substantially reducing parental availability. The problems that may interfere with parent's availability to attend to his child may have different natures, but all of them are likely to be exacerbated by stressful family interactions.

Reflective dialogue allows the parent to have a space in which he/she may try to understand disruptions in the caregiver-child relationship, examine feelings, empathize with the child, and repair breaches in the caregiver availability. *Adult attachment relationships* may also provide for the caregiver's own attachment needs, reducing the referred competition between the same person's attachment and caregiving systems. In successful adult attachments, the adults form a partnership in which they reciprocally act as attachment figures to one another. These relationships are most commonly formed with spouses.

These considerations are very important, since they help us understand how the insecure individuals of our sample may have developed secure attachments with their infants, especially when mothers are insecure but their husbands have secure working models. According to Kobak (2003), in some families, when the relationship between the child and the primary caregiver becomes distressed, the secondary caregiver's availability can be an important source of support for the child. A secondary caregiver who is responsive to both the child and the primary caregiver can serve as a source of support and may keep distress contained to the primary attachment relationship. In contrast, the insecure mothers with insecure husbands (mostly with a dismissing attachment) of our sample have insecure infants attached to them. A disengaged secondary attachment figure may greatly increase anxiety in both the child and the primary caregiver. Lack of availability at a time of stress can readily be perceived as emotional abandonment. The quality of the attachment bond between caregivers can have an enormous impact on the overall emotional climate of the family: secure bonds can provide both the primary and the secondary caregivers with a secure base for parenting children, managing daily stresses, and pursuing other important goals. In a well functioning alliance, caregivers can help each other to better understand the child as well as generate new constructive perspectives on the child (Kobak, 2003). The secure fathers of our sample may be providing useful feedback about parenting or modelling alternative ways of responding to the child's signals. Also, when these insecure mothers feel supported by their secure

husbands it is probably the case that they become more capable of repairing breaches and perceived threats of their availability to their infants.

Why would this combination work so well, whereas the pairing of a husband with an insecure model of attachment and a wife with a secure model did not provide the buffering that changes the negative intergenerational pattern? In our sample, women seem to function as individuals that are more open to the revision of their working models or relational practices, as being receptive to influences other than those from the family of origin's relational matrix, being therefore more close to the root of a "earned security in the making" (Alexandrov, Cowan, & Cowan, 2005). Our fathers seem to act more as protagonists, influencing other family members, than as individuals open to the revision of their attachment models with their family of origin. If the explanation of these gender differences is related to ethological reasons, or to cultural ones, that promote in men leadership qualities but also more rigid defensive mechanisms and, therefore, less openness to change, we cannot know. Nevertheless, the fathers' positive corrective role in the working models of the family members should not be minimized. This has natural consequences for family therapies that imply the involvement of fathers in the therapeutic process (Tereno, Soares, Martins, Celani, & Sampaio, 2008).

As we have mentioned before, we did not assess the parents' reflective abilities, or even the couples' communication process, but we consider that attachment narrative coherence may be a primary dimension, transversal to all of these constructs. Our results, indicating individuals' narrative coherence as very frequently associated to all family members' attachment, seem to indicate that this cognitive dimension plays quite a relevant role in the attachment generational concordance mechanism.

### ***Study Limitations and future research directions***

Our study has naturally raised research questions and hypotheses that should be deepened in future researches. Far from the ambitious aim of studying the interactional mechanisms of marital representations that may contribute to the intergenerational transmission of attachment, we have rather based our design options in the empirical studies that show an association between attachment security and narrative coherence in the moment in which individuals evoke their attachment stories (Main, 1991). The complex character of such interactional methodological designs and their multifactorial nature was also for us an impossible task to perform during our dissertation.

The inclusion of the father in our design options was in fact an attempt to overcome the exclusive focus on the mother and infant relationship attachment study. Because the role of fathers is still far from being as central as the one of mothers in attachment research and theory, the impression given is that they are not as relevant as mothers are in key areas of the child's development. Indeed, from a few studies (eg, Cox, Tresch, Owen, henderson, & Margand, 1992), we know that the child's attachment to the father and to the mother is not significantly correlated, as was confirmed by our results. We could however verify that, at a tryadic level, the attachment style of the father affects the intergenerational attachment concordance between the mother and her infant. In our case we have focused on intimate marital representations, but a more sophisticated systemic approach of attachment should go beyond the mere inclusion of the evaluation of the father-child attachment as we did. Future research should try to see how some contextual variables are additively combined to explain the variance in the parents-child's attachment transmission. A systemic analysis of attachment should therefore combine parents' representational and interactional direct and indirect effects of the children's attachment. In other words, future researches should go beyond certain conceptual and methodological limitations and move forward to the study of circular causality, which underlies the complexity of attachment generational transmission (Tereno, Soares, Martins, Sampaio, & Carlson, 2007).

Another restriction was the relatively low number of families that participated in our study. As we have mentioned before, our findings did not statistically confirm the generational transmission hypothesis, neither between mothers and infants nor between fathers and infants. However, the percentage of secure infants with secure mothers and of secure infants with secure fathers was always superior to any other kind of dyadic attachment constellation. Mothers and fathers' attachment representations also did not agree in a significant way in our sample. However, as for the intergenerational concordance, the percentage of secure mothers with secure husbands is superior to any other kind of dyadic attachment constellation. The small number of subjects in our sample may be partially responsible for the absence of a clear significant concordance tendency. Our study is a part of a broader longitudinal project that is still in progress. Because new families are being added to our sample, we may have some opportunity to clarify the results about this attachment intergenerational (no) concordance in a relatively short period of time.

One potential limitation is that we have studied attachment generational “concordance” and not the attachment generational “transmission”, since our assessment of the parents’ attachment organisation was made after the infant was born. This is so because, given the retrospective nature of this methodology, the possibility that the caregivers’ attachment organization (which is the “unconscious focus” of the parental figure during the attachment interview) was influenced by the parental involvement with their child, should be considered (Fonagy, Steele, & Steele, 1991; Hesse, 1999). Even if van Ijzendoorn (1995) has shown that both pre and post-natal assessments in the Adult Attachment Interview are highly correlated, we prefer to refer to this thematic as the “intergenerational approach of attachment”. Future research should ideally collect parents’ attachment information before the infant is born.

Finally, in our study we did not assess neither the category ‘Unresolved’ from the parents Adult attachment AAI, nor the infants’ attachment Disorganisation. The ‘Unresolved’ category is usually included in the narrative-based attachment coding systems (e.g., Dickstein et al., 2001; Main & Goldwyn, 1998). The omission in of this category in our study is due to the fact that Kobak’s Q-sort coding system of the AAI does not allow us to classify subjects with regard to their ‘Unresolved’ state of mind. Without this information and because of time limitations we have ended up not coding the infant’s attachment disorganisation also. Future studies might consider assessing the parents’ Unresolved category and their infants’ attachment Disorganisation category, but also, as proposed by (Alexandrov, et al., 2005) the couples ‘Unresolved’ narrative related to loss and trauma. There is some evidence from other studies suggesting that the group of people with such couple scores overlaps considerably with the participants placed in the Unresolved category in the AAI and/or the fearful category in self-report attachment measures (Brennan, Shaver, & Tobey, 1991; Simpson & Rholes, 2002).

### ***Some Speculative Remarks***

Based on our literature review and departing from our results, we will present some reflections in order to discuss the attachment intergenerational concordance processes, which may occur in the light of the parents' attachment and marital narrative coherence, as well as to advance with some attachment based family therapy propositions.

### **Inter-generational Approach of Attachment and Intimate Marital Representations: a model proposition**

From an ontological and phylogenetic point of view, the mediation mechanisms that characterise attachment transmission lead us to the very definition of the human being. It is the language skills, specific to the human species, which give the self a symbolic potential, that allows the species to organise itself, throughout the cognitive, emotional and behavioural dimensions, in mental representations that are interpretative of the external world. Owing to the fact that a family system is composed of different members, along with their attributes and interactions and that it contains hierarchically organized subsystems, the concepts of transgenerationality, parenting and conjugality distinguish themselves, not only by the different subsystems that they are composed of, but also by transactional differences subjacent to their members' mental processes. It is the particular constitution of each subsystem, and the consequent variations in the communication of these internal realities, that underlie the specificity of the transactional mechanisms, both inside and outside each of these constructs.

It is important to precise that the concept of transmission, although being a transactional process, implies a joint experience of the various family members, which promotes the creation of concrete forms of interaction between them, helping to create a particular family emotional atmosphere. Given that time is a factor that crosses the entire family life cycle in the transmission process and that a deterministic tone can be easily associated to it, the dipoles intentional/unintentional and voluntary/involuntary lead us, in our opinion, to a notion of "Intergenerational Responsibility". We can speculate that, in their interactions, each family member communicates a set of intentional or unintentional choices of action, dependent on a cognitive meta-control mechanism (integrative of the cognitive, behavioural and emotional domains) that, through mechanisms of awareness, allows each individual to act in the best possible way towards the next generation.

In the domain of parenting and conjugality, these notions of awareness and of responsibility assume an even greater preponderance. If, in the transmission process the caregiver's attachment is an active but involuntary presence, the parental and marital experiences present themselves as an opportunity to introduce a self-observation filter and as an opportunity of a conscious action which may enable parents to correct possible representational mistakes that influence their interactions with the child.

This awareness seems to us the potential turning point for the interruption of the transmission of attachment disadvantage cycles. It is this awareness or consciousness that may create the mental space for an auto and hetero-distancing of the parent, essential to take perspective of the child's mental world. As we have mentioned before, Fonagy & Target (2005) propose the construct of *Reflexive Function*, to define an overall ability that allows the parent to access, flexibly and consistently, emotions and memories relevant to his own early attachment experiences, as well as to reflect and contain the child's interior world, providing him with a secure basis. A parent's secure attachment (developed or earned) allows and empowers his ability to explore his own mind, releasing and promoting a similar ability in the mental status of the new human being. It seems that it is only through exploring the mind of the other that the child develops full appreciation of the nature of mental states. Thus, attachment security provides a congenial context for the child to explore his own mind, the mind of his parent, and then to generalise this knowledge about other people's mind. As this new awareness developed by the child, involves his own sense of mental self in dialectical interactions with the caregiver, it reduces, in turn, the frequency of parental behaviours that would hinder the normal progress of the child. The process is inter-subjective: the child knows the mind of the caregiver as he strives to understand and contain the mental state of the child (Fonagy, 1999).

Now, we should question what mental processes this "awareness" ability is linked to, if it is an inherent faculty of all individuals or if it is constructed or received. One possible answer to these questions brings us to Bowlby's very definition of attachment internal working models (1969/1982). Defining a child's set of knowledge and expectations about attachment figures and relationships, built from repeated interactions with the attachment figures and internally organized as general representations of the self, these internal models allow the subject to make decisions about his attachment behaviours with a particular figure, to anticipate the future and to make plans, conducting him to operate more efficiently. Without removing the meta-processing emphasis of these mental representations, it should be noted that the author suggests however that the child forms different attachment internal models that are relationship dependant. While defending the existence of a primary attachment figure, Bowlby proposes

the co-existence of different types of internal models, hierarchically organized, in light of the relational experience with each of the child's interlocutors.

As mentioned earlier, the potential for revision of these models is always latent throughout the individual's life span, and the development of new working models, which is associated with new relational experiences, such as the marital relationship, may also occur. If the working models contribute for the relationship adjustment, when a reflective function ability is not achieved in the context of the family of origin, we may ask if it is possible that this capacity could be developed in the marital relationship experience? We think so, and we call this a "couple reflective function", a term which would be picked up from the couple's "reflective dialogue" (Kobak, 2003). This sort of "earned reflective function" designates the ability to mentalise, and contain in some way, the mental state and the emotions of the partner throughout a mentalisation process. This capacity should have repercussions in the couples' marital narrative coherence. In a second phase, it could be generalized to a more integrated attachment coherence in individuals with insecure attachment experiences. This cognitive operation would reflect the process of "earned security in the making" (Alexandrov, Cowan, & Cowan, 2005). This is consistent with the idea that attachment models are open for revision and that committed intimate attachment relationships may be the most likely vehicle for experiences in which revisions of one's original attachment models are possible (Hazan & Shaver, 1987). Thus, results of the present study might offer a glance at one of the necessary and sequential transformations of internal working models from an insecure to a secure model.

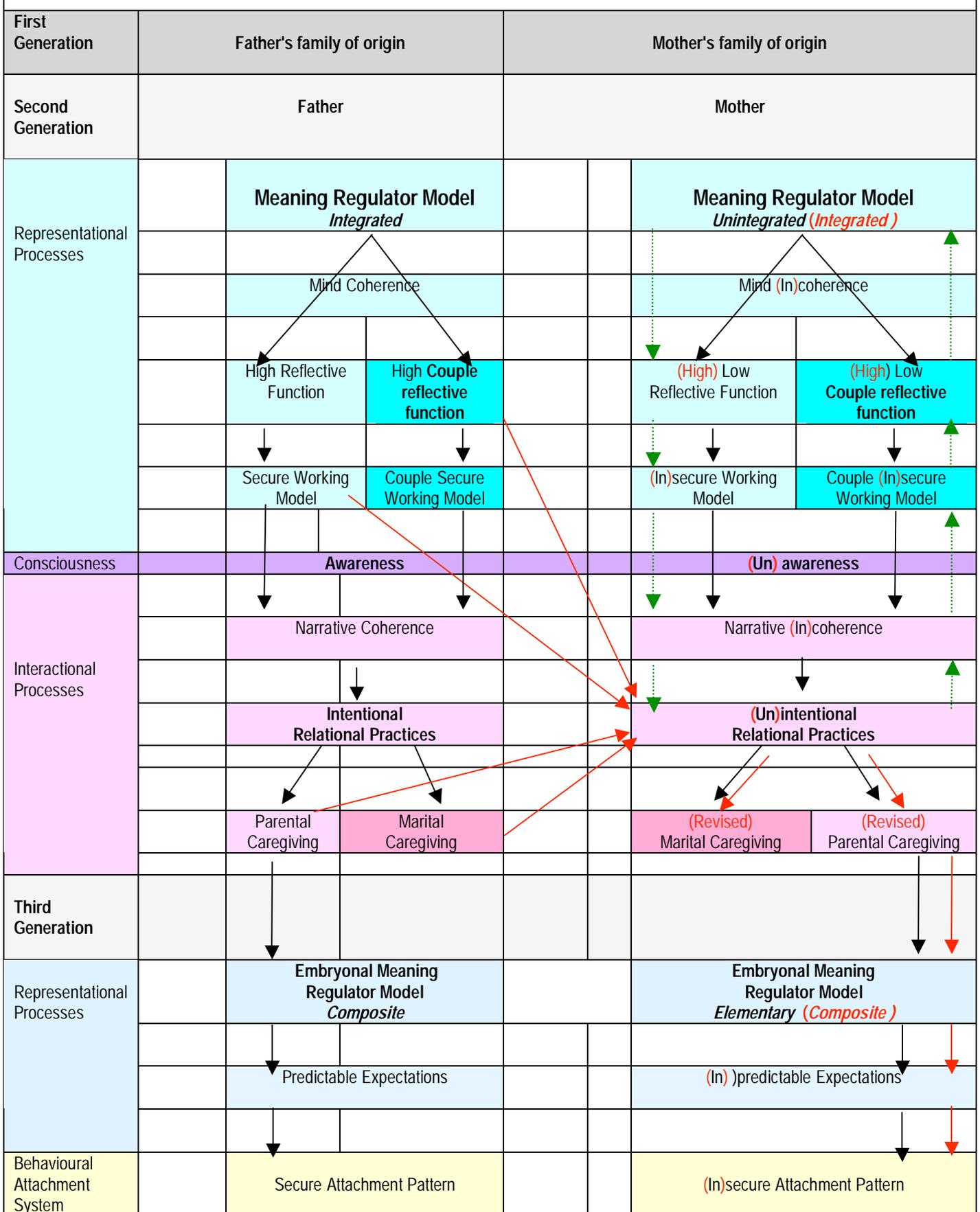
Given the apparent co-existence of multiple internal models in the same individual, it seems relevant to question if the ability to organize coherently the discourse in the AAI simultaneously with that in the IRI does not evidence the possibility of the existence of a meta-control mechanism. This mechanism would have a higher abstraction level than the attachment working models proposed by Bowlby. If the narrative coherence, while an isolated variable, is a crossing factor of all working models of a given subject, we may be dealing with a superior instance of cognitive control, responsible for the individual awareness of those processes. According to Siegel (1999), at a neurophysiologic level, episodic memory appears to involve a much larger process than merely the autobiographical content of representations of personally experienced events. Auto-noetic awareness involves the experience of mental time travelling and is directly linked to the processes of the prefrontal regions of the brain, and seems to be created within the various layers of the prefrontal function. These include: an integrating capacity, in which information stored in a more posterior part of the brain can be organized and sequenced into a meaningful set of representations; executive functions, which provide a more global

control of widely distributed brain processes; and the mediation of self-reflection and social cognition. The most central region of the brain, for attachment, also appears to be the primary mediator of auto-noetic consciousness. This right orbitofrontal region serves the vital integrative function of coordinating social communication, empathic attunement, emotional regulation, registration of bodily state, stimulus appraisal (the establishment of the value and the meaning of the representations), and auto-noetic consciousness. According to the author, these convergent findings suggest a preliminary view of how early emotional relationships shape self-knowledge and the capacity to integrate a coherent state of mind concerning attachment.

Our conceptual proposition goes in this sense (Figure VI). Some authors sustain that the working models' multi-existence can be represented hierarchically, with a general attachment representation at the top of the hierarchy, and relationship-specific representation at the bottom (Collins & Read, 1994; Mikulincer & Arad, 1999). Alternatively, and based on our empirical data and literature review, we presume that the narrative coherence ability may be an exterior reflection of an upper procedural instance that we designate as a "*Meaning Regulator Model*", which confers a sense to the individual relational stories, in a higher or lower degree. This may represent a control meta-process that allows the subject to become aware enough to interact voluntarily in a more secure way with his descendant. According to Blom and van Dijk (2007), even at a very early age, the infant begins to develop his self, the mentalization process and the reflective function (Fonagy & Target, 1996). At the beginning this is a kind of pre-verbal consciousness (Damasio, 2000). Later, by the fourth or fifth year of life, reflective function or mentalizing is established, together with the development of language, and with it the "extended consciousness" (Damasio, 1994). Throughout the predictability of their behaviours, "parents' intentional practices" would foster an "embryonal meaning regulator model" in the infant's mind.

In a strong sense of the term, an "*Integrated Meaning Regulator Model*", through its integrative way of organising the subjects mind and therefore discourse, could be opposed by a weaker "*Unintegrated Meaning Regulator Model*", which would reflect a poor ability to coherently organise the discourse. As it would be associated with the parents' (and the couples') Reflexive Function, a high ability to assign meaning to the attachment experiences (parenting, marriage, etc.) would be present in the cases of attachment security transmission as well as associated with the interruption of the transmission of the disadvantaged cycles of insecurity. On the other hand, a reduced ability to assign meaning to the parents' relational significant stories would be associated with the (involuntary) transmission of the attachment insecurity across generations. These speculative remarks will lead us to reflect about some clinical propositions derived from the attachment based family therapy.

**Figure VI – Inter-generational Approach of Attachment and Intimate Marital representations: a model proposition**



## **Attachment based family therapy: clinical propositions**

Byng-Hall (1999) has suggested that a 'secure family base' allows family members to express negative affect, while remaining assured that the availability and responsiveness of other members is not threatened. Our attachment based family therapy propositions are mainly based on the central premise that child's problems can often be most effectively addressed by enhancing the couple as a family secure base unit. In order to achieve this family format, the family therapist may have to deal both with parent's intergenerational attachment representations and with their parenting practices. Kobak's (2003) therapeutic method, designated "caring for the caregiver", seem to us a central instrument in order to help parents to structure, as a couple unit, a caregiving alliance that allows them to be more available to answer their child's signals, specially in times of stress. Kobak sustains that change in family is most likely to occur when the caregiver establishes greater confidence in the availability of another adult. The feeling of increased security creates the conditions for the insecure caregiver to more accurately monitor him or herself, consider alternative perspectives on his or her child, and maybe engage in new and more positive approaches to the child's difficult behaviour. A secure adult relationship also provides the caregiver with an ally or partner who can introduce new information and perspectives on the child that facilitate problem solving and increase cognitive flexibility.

Depending on the family structure, this person can be either an adult partner or the therapist. We propose that the family therapist work as a temporary attachment figure that allows the couple to use him as a temporary secure base resource in order to experiment new reflective and pragmatic explorations. When, in the couple, one of the members has a secure working model, this person can be used as a "co-therapist" allowing the therapist to advance one-step further in the goal of creating in the couple a secure base family unit. In order to do this, the therapist has to assess the parents' attachment representations. Treatment and assessment in family relationships are closely linked. The goal of assessment is to clearly identify the sources of relationship distress and how distress may undermine effective caregiving when associated with the parents' attachment insecurity or with other stressful events. As the therapist uses assessment information to establish a therapeutic focus, the caregiver may gain new perspectives on his or her self and the family relationships. By enhancing this co-construction of meaning in the couple (or in the family), the therapist's focus of intervention is directed to the "Meaning Regulator Model", that we have proposed above. Increased awareness creates new opportunities for more effective communication and stress management. By accurately identifying and

effectively encapsulating family distress, the parent can become progressively and intentionally more available and predictable to his or her children and reassure them of his or her ability to provide protection (Kobak, 2003). In this line of thought, the initial challenge for the therapist would be to move from the present family problems or symptoms to the relationship processes that produce or maintain them, frequently with an inter-generational format.

A transversal goal of family treatment is providing the caregiver with a secure base for exploring his or her relationship with the child. The notion of a secure base for caregiving centres on the parent's confidence that he or she has an ally who shares his or her interest in protecting and supporting the child's development. We see the establishment of a secure relationship with the therapist as a precondition to being able to be open to new experiences and to open communication in therapy sessions. When a focus on the couple is not possible at the beginning of the intervention process, the therapist may alternatively approach the parental subsystem first and focus on the caregiving alliance. The dynamic of the therapeutic process is thus dialectic. The success of the focus on the caregiving alliance will often determine whether the therapist needs to shift the focus to adult attachment issues. However, in cases where fear and anger dominate the adult's attachment relationship and undermine efforts to build a caregiving alliance, couple focused therapy represents the approach of choice for a therapist pursuing an attachment model, and has produced impressive outcomes (Johnson & Best, 2003). However, in cases that begin with the child as the identified patient, it is important that the therapist continue to monitor the impact of the couple's work on the parent-child relationship and the children. This can be done by reports from the parents and by occasional sessions directly involving the children (Kobak, 2003).

Problems in the secure base couple unit are often associated to the parents' difficulty in maintaining a caregiving alliance, which in turn are frequently rooted in an insecure adult attachment relationship. When partners lose confidence in each other's availability and responsiveness, the threat of abandonment and loss evokes the most basic attachment emotions of fear and anger. Repairing the individual's confidence and trust in the partner availability is a fundamental therapeutic aim. The rebuilding of trust in the partner is necessarily linked with forgiveness issues, which are the first step to help the subjects to become more aware of their mistakes and their consequent need of relational emotional reparation. Coping with such feelings tends to take priority over the other issues in the adults' lives, because they activate the parental attachment system that competes with the caregiving system, reducing the caregiver's availability for the child. As a result, problems in the caregiving alliance should usually be followed up by assessment of the quality of the adult attachment relationship (Kobak, 2003).

When the therapist helps parents to establish a *caregiving alliance* in the interest of protecting and educating their children, parenting becomes a shared responsibility and each caregiver has a partner with whom to manage day-to-day stresses of raising children. Perhaps most importantly, the therapist, by providing the parents with a context for "reflective dialogue" (Kobak, 2003), may be promoting the development of a "couple reflective function" that will help them to better reflect and openly communicate about their own relationship. Consequently, a better development of the couple's caregiving alliance can be expected. *Adult attachment relationships* may therefore provide for caregiver's own attachment needs, reducing the competition between the same person attachment and caregiver systems. This "couple reflective function" may also provide the parent with a space to understand disruptions in the caregiver-child relationship, examine feelings, empathize with the child, and repair breaches in the caregiver availability. By increasing the caregiver awareness of his attachment processes and by fomenting the attribution of new meanings to his or her attachment stories, the therapist also promotes change in the caregiver's "relationship intentional practices", which we think may be the turning point and the meta-cognitive filter to avoid attachment insecurity transmission from crossing generations. More precisely, if the primary threat to the caregiver availability results from parental stress (independently of its origin), the therapeutic recommendation can be centred on enhancing the parent's ability to monitor and communicate with the child about the situation (Kobak, 2003). Depending on the children's age and on the assessment done by the therapist, modular therapeutic options should be chosen and then adapted to each family reality.

## CONCLUSION

Our results give some support to the idea that marital relationships play a role in the quality of parent – child relationships and children's attachment security. We also propose that there may be a directional connection between couple relationships and parent – child relationships. Several authors propose that the ability to regulate and communicate about positive and negative emotions in the parent's families of origin (typical of secure subjects) is related to their ability to regulate and openly communicate about emotions in their new family (in their relationships as a couple and with their children), creating current secure attachments working models in the different family members. Our results indicating that individuals' narratives coherence was so frequently associated to all family members' attachment seem to indicate that this cognitive dimension plays quite a relevant role in the attachment generational concordance mechanism.

We did not find generational concordance at a statistical significant level in our normative sample. Although, in the literature the studies of intergenerational concordance mostly point to a correspondence of attachment between generations, we can also find some cases in which, like in our sample, this was not the case. In terms of the ecology of development (Bronfenbrenner, 1979; 1999), the intergenerational transmission seems to be more modest in normative samples that are characterized by rapid changes in the living conditions across generations.

Additionally, not only have we found that the father of our sample seem to buffer insecurity "transmission" between mother and infant, but we have seen that they may be impeding the generalisation of the infant's insecurity with the mother to an insecure attachment with the father and, maybe, to a future insecure unified attachment working model. The mother's security did not have this protector effect regarding the infant-father relationship. This has natural consequences for family therapies that imply the involvement of fathers in the therapeutic process (Tereno, Soares, Martins, Celani, & Sampaio, 2008) in a more consistent way.

The theoretical and empirical findings presented led us to advance a personal speculative proposition that aims at better explaining how attachment intergenerational processes may occur in the light of parents' attachment and intimate marital narrative coherence. We have proposed that a *Meaning Regulator Model* should be associated with the potential transmission of attachment quality from one generation to the other. Families with a clear consciousness of their attachment experiences (*Integrated*

*Meaning Regulator Model*) may transmit this mentalization ability to the inner world of their children, throughout processes of open communication and positive emotional environment or may reformulate their working models or their parental practices, impeding the transmission of insecurity across generations. On the other hand, a reduced ability to assign meaning to the parents' relational significant stories (*Unintegrated Meaning Regulator Model*) would be associated with the (involuntary) transmission of the attachment insecurity across generations.

The conceptual product of our work has shaped the notions of "Composite or Elementary Meaning regulator Model", of "Couple's Reflective Function", and of "Awareness" as associated to the "Intentional relational Practices". We think that, at present time, we do not have the methodological means to assess the first construct. Nevertheless, the assessment of the individual's attachment narrative that makes use of different instruments, like the AAI and the IRI, may be an adequate methodology option to indirectly assess this speculative meta-control cognitive mechanism. As for the "Couple's Reflective Function" an adaptation of Fonagy's Parental Reflective Scale or of Oppenheim's Insightfulness Attachment seem to be the better options to adopt. Regarding "Awareness" and the construct of "Intentional relational Practices", we think that a new relationship specific instrument, that articulates the relational practices of the subjects with their own conscience and decision-making processes when facing interactional dilemmas, should be developed. We were not able to test these propositions within our empirical work. The timings of a research project are frequently not synchronised with the mind evolution of a researcher. The period of time that occurs between the project definition and the end of the study does not allow a parallel between the researcher's scientific maturation and the project's maturation. We are always ready to start when we finish...

We also did not test our attachment based family intervention propositions but, the study of Cowan and Cowan (2005) has evidenced that the intervention focused on the couple relationship change was able to produce observed changes in parenting style, but the parenting-focused intervention did not have the reverse effects. If one major goal is to enhance young children's emotional, social, and academic adaptation, the results of this intervention study suggest that there may be more advantages in helping parents with their couple relationship issues than in focusing solely on their parenting strategies.

It has been assumed that the primary pathway to enhancing children's well-being is through interventions designed to increase the quality of their parents' skills in parenting. Our findings suggest that couple relationship quality may play an important role in determining whether parents' insecure

working models of attachment will have an impact on marital and family relationships in ways that affect their children's attachment security. Child therapists are invited to take the message from these findings that addressing unresolved issues between the child's parents could add power to their interventions. Couple therapists might consider that whether or not they see the children or discuss issues that patients have with their children, they may be playing an important preventive mental health role in promoting children's well-being by strengthening their parents' relationships as partners and as parents (Cowan, & Cowan, 2005). While parenting interventions are one way to enhance children's well-being, couple-focused interventions hold the potential to foster children's adaptation by breaking cycles of unsatisfying relationships across generations and enhancing the quality of family life for parents and children.

The integrative final goal of these therapeutic propositions should be to promote the reconstruction of the family members' attachment history meaning, and therefore to reformulate the parents' attachment insecurity working models, avoiding the transmission of disadvantage attachment cycles across generations. Psychotherapy should in general work through the family members' negative stories of attachment, while providing a secure base that can encourage their self-confidence and thus their potential for adaptation (Mikulincer & Florian, 2000). In sum, from a clinical point of view, it seems essential that the therapist help the parents' to revise their attachment working models (Bowlby, 1980; Main et al., 1985), and build attachment narrative coherence in a more integrated way. This may have a role in modifying mal-adaptive interpersonal schemes, and therefore in breaking negative interpersonal cycles. Only a corrective emotionally significant relationship, being innovative, allows the family's exploration of new interpersonal scenarios and the co-construction of new relationship meanings that generate attachment security at an intra-individual and an intergenerational level.



## REFERENCES

- Aguilar, B., Sroufe, L., Egeland, B., et al. (2000). Distinguishing the early-onset/persistent and adolescence-onset antisocial behavior types: from birth to 16 years. *Developmental Psychopathology*, 12, 109-132.
- Ainsworth, M. (1963). The development of infant-mother interaction among the Uganda. In B.M. Foss (Ed.), *Determinants of infant behavior*, 2, 67-104. London: Methuen.
- Ainsworth, M. (1964). Patterns of attachment behavior shown by the infant in interaction with his mother. *Merrill-Palmer Quarterly*, 10, 51-58.
- Ainsworth, M. (1967). *Infancy in Uganda: Infant care and the growth of love*. Baltimore: Johns Hopkins University Press.
- Ainsworth, M. (1969). Object relations, dependency and attachment: a theoretical review of the infant-mother relationship. *Child Development*, 40, 969-1025.
- Ainsworth, M. (1972). Attachment and dependency: a comparison. In: J.L. Gewirtz (Ed.), *Attachment and dependency*, 97-137. Washington, DC: V.H. Winston.
- Ainsworth, M. (1973). The development of infant-mother attachment. In: B. Caldwell and H.N. Ricciuti (Eds.), *Review of Child Development Research*, 1-94. Chicago: Univ. of Chicago Press.
- Ainsworth, M. (1985). Attachment across the life span. *Bulletin of the New York Academy of Medicine*, 61, 792-812.
- Ainsworth, M. (1991). Attachment and other affectional bonds across the life cycle. In C.M.Parkes, J.Stevenson-Hinde, & P.Marris (Eds.), *Attachment across the life cycle*, 33-51. New York: Routledge.
- Ainsworth, M & Bell, S. & Stayton, D. (1971). Individual differences in the strange situation behaviour of one-year-olds. In H. Schaffer (Ed.), *The origins of human social relations*. NY: Academic Pres.
- Ainsworth, M & Bell, S. & Stayton, D. (1972). Individual differences in the development of some attachment behaviours. *Merrill-Palmer Quarterly*, 18, 123-143.

- Ainsworth, M. & Bell, S. & Stayton (1974). Mother-infant interaction and the development of competence. In: Connolly & Brunner (Eds.) *The Growth of Competence*, 97-118. New York: Academic Press.
- Ainsworth, M., Blehar, M., Waters, E. & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale: Lawrence Erlbaum.
- Ainsworth, M & Eichberg, C ( 1991 ). Effects on infant-mother attachment of mother's unresolved loss of an attachment figure or other traumatic experience. In J. Stevenson-Hinde and P. Marris (Eds). *Attachment across the life cycle*, 33-51. London and New York: Routledge.
- Ainsworth, M & Wittig, B. (1969). Attachment and exploratory behaviour of one-year-olds in a strange situation. In B. Foss (ed.), *Determinants of infant behaviour*, 4, 129-173. London: Methuen.
- Akister, Jane, Reibstein, Janet (2004). Links between attachment theory and systemic practice: some proposals. *Journal of Family Therapy*. 26(1), 2-16.
- Alexandrov, Elina O., Cowan, Philip A. and Cowan, Carolyn Pape (2005) 'Couple attachment and the quality of marital relationships: Method and concept in the validation of the new couple attachment interview and coding system', *Attachment & Human Development*, 7:2, 123 - 152
- Ammaniti, Speranza, & Candelori (1996). Stability of attachment in children and intergenerational transmission of attachment. *Psichiatria dell' Infanzia e dell' Adolescenza*, 63, 313-332..
- Arend, R., Gove, F., & Sroufe, A. (1979). Continuity of individual adaptation from infancy to kindergarten: a predictive study of ego-resiliency and curiosity in pre-schoolers. *Child Development*, 50, 950-959.
- Bakermans-Kranenburg, M.J, Van Ijzendoorn, M.H, & Juffer, F. (2003). Less is More: Meta-Analyses of sensitivity and Attachment Interventions in Early Childhood. *Psychological Bulletin*, 129, 195-215.
- Bartholomew, K. (1991). *Attachment style prototypes*. Unpublished manuscript, University of British Columbia..
- Bartholomew, K. (1997). Adult attachment processes: individual and couple perspectives. *British Journal of Medical Psychology*, 70: 249-263
- Bartholomew, K., (1990). Avoidance of intimacy: an attachment perspective. *Journal of Social and Personal Relationships*, 7, 147-178.
- Bartholomew, K. & Horowitz, L. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, 61, 2, 226-244.

- Bateson, G. (1951). *Communication, The social matrix of psychiatry* (em coll. J.Ruesch), New York, Norton.
- Bell, M., & Ainsworth, M. (1972). Infant crying and maternal responsiveness. *Child Development, 43*, 1171-1190.
- Belsky, J. (1984). The determinants of parenting: a process model. *Child Development, 55*, 83-96.
- Belsky (1985). Exploring individual differences in marital change across the transition to parenthood: the role of violated expectations. *Journal of marriage and the family, 47*, 1037-46.
- Belsky, J. (1996). Parent, infant, and social-contextual antecedents of attachment security. *Developmental Psychology, 32*, 905-913.
- Belsky, J. (1997). Theory testing, effect-size evaluation, and differential susceptibility to rearing influence: The case of mothering and attachment. *Child Development, 64*, 598-600.
- Belsky, J. (1999a). Modern evolutionary theory and patterns of attachment. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications*, 141-161. NY: The Guilford Press.
- Belsky, J. (1999b). Interactional and Contextual Determinants of Attachment Security. In Cassidy, J., & Shaver, P. (Eds.). *Handbook of attachment. Theory, Research and Clinical Applications*. New York, London: The Guilford Press.
- Belsky, J. (2000). Conditional and alternative reproductive strategies: Individual differences in susceptibility to rearing experience. In: Rodgers, D. Rowe, and W. Miller (Eds.), *Genetic Influences on Human Fertility and Sexuality: Theoretical and Empirical Contributions from the Biological and Behavioral Sciences*, 127-146. Boston: Kluwer.
- Belsky, J. (2005). The developmental and evolutionary psychology of intergenerational transmission of attachment. In C. S. Carter, L. Ahnert, K. Grossman, S. Hrdy, M. Lamb, S. Porges & N. Sascher (Eds.), *Attachment and bonding: A new synthesis*, 169-198. Cambridge, MA: MIT Press.
- Belsky, J., & Isabella, R. (1988). Maternal, infant, and social-contextual determinants of attachment security. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment*. Hillsdale: Lawrence Erlbaum.
- Belsky, J., & S. Jaffee. (2004). The multiple determinants of parenting. In: D. Cicchetti and D.J. Cohen (Eds.), *Handbook of Psychopathology*, New York: Wiley, in press.

- Belsky, J.B., Rosenberger, K., Crnic, K. (1995). The Origins of Attachment Security: "Classical" and Contextual Determinants. In S.M.R.&K.J.Goldberg (Ed.), *Attachment theory: social, developmental and clinical perspectives*, New York: analytic press.
- Belsky, Steinberg, and Draper (1991). Childhood experience, interpersonal development and reproductive strategie: an evolutionary theory of socialisation. *Child Development*, 62, 647-670.
- Benoit D. & Parker, K. (1994). Stability and transmission of attachment among three generations. *Infant Mental Health Journal*, 10, 185-202.
- Benoit, D., Zeanah, C., Boucher, C., et al. (1992). Sleep disorders in early childhood: association with insecure maternal attachment. *J Am Acad Child Adolesc Psychiatry*, 31, 86-93.
- Berlin, L., & Cassidy, J. (1999). Relations among relationships—Contribution from attachment theory and research. In J. Cassidy, & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications*, 688–712. New York: Guilford Press.
- Bernier, A. & Dozier, M. (2002). Assessing adult attachment: empirical sophistication and conceptual bases. *Attachment and Human Development*, 4, 171-179.
- Bernier, A. & Dozier, M. (2003). Bridging the attachment transmission gap: The role of maternal mind-mindedness. *International-journal-of-behavioral-development:-Print*, 27(4), 355-365.
- Bertalanffy, L.V. (1972). The history and status of general systems theory. In Klir. G. (Ed.), *Trends in general system theory*. John Wiley, New York.
- Besser, A. & Priel (2005). The apple does not fall from the tree: attachment styles and personality vulnerabilities to depression in three generations of women. *Personality and Social Psychological Bulletin*, 31 (8), 1052-1073.
- Bifulco, A (2002). Attachment style measurement: a clinical and epidemiological perspective. *Attachment and Human Development*, 4,180-188.
- Bifulco, A. (2003). The Vulnerable Attachment Style Questionnaire (VASQ): An interview-derived measure of attachment styles that predict depressive disorder, *Psychological Medicine*, 33, 1099-1110.
- Bing-Hall, J. (1985). The family script: a useful bridge between theory and practice. *Journal of family therapy*, 7, 301-305.
- Bing-Hall, J. (1995). *Rewriting family scripts: improvisations and system changes*. The Guilford Press, New York, London.

- Bing-Hall, J. (1999). Family and couple therapy: Toward greater security. In J.Cassidy & P.Shaver (Eds.), *Handbook of Attachment: Theory, research and clinical applications*, 625-648. New York, London: Guilford.
- Blehar, M., Lieberman, A., & Ainsworth, M. (1977). Early face-to-face interaction and its relation to later infant-mother attachment. *Child Development*, 48, 182-194.
- Blom, T. & van Dijk, L. (2007). The role of attachment in couple relationships described as social systems. *Journal of Family Therapy*. 29(1), 69-87.
- Bokhorst, C., M. Bakermans-Kranenburg, P. Fearon et al. (2004). The importance of shared environment in mother-infant attachment: A behavior-genetic study. *Child Development*, 74, 1769-1782.
- Bowlby, J. (1951). *Maternal care and mental health*. Geneva: World Health Organization Monograph Series, No.2. .
- Bowlby, J. (1953). *Child Care and the Growth of Love*. Pelican Books. Great Britan.
- Bowlby, J. (1958). *The nature of the child's tie to his mother*. International Journal of Psycho-Analysis, 39, 350-373.
- Bowlby, J. (1969/1982). *Attachment and loss: Attachment*. London: Basic Books (revised edition, 1982)
- Bowlby, J. (1977). The making and breaking of affectional bonds. *British Journal of Psychiatry*, 130, 421-431.
- Bowlby, J. (1979). *The making and breaking of affectional bonds*. London, Tavistock Publications.
- Bowlby, J. (1973/1979). *Attachment and loss: Separation* (1<sup>a</sup> e 2<sup>a</sup> edition). New York: Basic Books.
- Bowlby, J. (1980). *Attachment and loss: sadness and depression*. New York, Basic Books.
- Bowlby, J. (1982). *The place of attachment in human behavior. Epilogue*. In C. Parkes & J. Stevenson-Hinde (Eds.), London: Tavistock Publications.
- Bowlby, J. (1988). *A secure base. Clinical implications of attachment theory*. London: Routledge
- Brazelton, T. (1992). *Touchpoints*. New York: Guilford Press
- Brazelton (1999). How to help parents of young children: The touch points model. *Journal of Perinatology*, 19, S6-S7.

- Brazelton, T., Koslowski, B., & Main, M. (1974). The origins of reciprocity: the early mother-input interaction. In Lewis & Rosenblum (Eds.), *The effect of Infant on its caregiver*, 49-76. New York: Wiley.
- Brennan, K., Clark, C., Shaver, P. (1998). Self report measurement of adult attachment: an integrative review. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships*, 46-76. New York. Guilford Press.
- Bretherton, I. (1985). Attachment theory: Retrospect and prospect. In Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research*. Monographs of the Society for Research in Child Development, serial no. 209, 50 (1-2).
- Bretherton, I (1990). Communication patterns. Internal Working models and the intergenerational transmission of attachment relationships. *Infant mental health Journal*, 11, 237-252
- Bretherton, I. (1990). Open communication and internal working models: their role in the development of attachment relationships. In R. Thompson (Ed.), *Socioemotional Development*, 57-113. Lincoln and London: University of Nebraska Press.
- Bretherton, I. (1993). From dialogue to internal working models: The co-construction of self in relationships. In C.A. Nelson (Ed.), *Minnesota Symposia on Child Psychology*, 26, Memory and affect in development, 237-264. Hillsdale, NJ: Erlbaum.
- Bretherton, I. (1995). A Communication Perspective on Attachment Relationships and Internal Working Models. *Monographs of the Society for Research in Child Development*, 60 (2, 3), 310-329.
- Bretherton, I. (2005). In pursuit of the internal working model construct and its relevance to attachment relationships. In K. E. Grossmann, K. Grossmann, & E. Waters (Eds.), *Attachment from infancy to adulthood: The major longitudinal studies*, 13-47. New York: Guilford.
- Bretherton, I., Lambert, J., & Golby, B. (2005). Fathers narratives of their experiences as attachment figures, socialization agents and playmates. *Journal of Attachment and Human Development*, 7, 229-251.
- Bretherton, I., & Munholland, K (1999). Internal working models in attachment relationships: A construct revisited. In: J. Cassidy and P.R. Shaver (Eds.). *Handbook of Attachment: Theory, Research, and Clinical Applications*, 89–111. New York: Guilford.
- Bretherton, I., Ridgeway, D., & Cassidy, J. (1990). Assessing internal working models of the attachment relationship: An attachment story completion task for 3-year-olds. In D.Cicchetti,

- M.Greenberg, & E.M.Cummings (Eds.), *Attachment during the preschool years: Theory, research, and intervention*, 272-308. Chicago: University of Chicago Press.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.
- Bruner, J. (1981). The social context of language acquisition. *Language and communication*, 1, 155-178
- Byng-Hall, J. (1999). Family and couple therapy: Toward greater security. In J.Cassidy & P.Shaver (Eds.), *Handbook of Attachment: Theory, research and clinical applications*, 625-648. New York, London: Guilford.
- Capra, F. (1997). *The web of life: A new synthesis of mind and matter*. London: Flamingo.
- Carlson, E. (1998). A prospective longitudinal study of disorganized/disoriented attachment. *Child Development*, 69, 1970-1979.
- Carlson, E., Sampson, M., Sroufe, L. (2003). Implications of Attachment Theory and Research for Developmental-Behavioral Pediatrics. *Developmental and Behavioral Pediatrics*, 24, 364-379.
- Carlson, E. & Sroufe, A. (1995). The contribution of attachment theory to developmental psychopathology. In Cicchetti & Cohen (Eds.). *Theoretical Perspectives and Methodological Approaches, 1: Developmental Processes and Psychopathology*, 581-617. New York: Cambridge University Press.
- Carlson, V., Cicchetti, D., Burnett, D., et al. (1989). Disorganized/disoriented attachment relationships in maltreated infants. *Developmental Psychology*, 25, 525-531.
- Cassidy, (1994). Emotion regulation: influences of attachment relationships. In N. Fox (Ed.), *Emotional regulation: biological and behavioural considerations*, 228-249.
- Cassidy, J. (1999). The nature of child's ties. In Cassidy, J., & Shaver, P. (Eds.), *Handbook of attachment. Theory, Research and Clinical Applications*, 3-20. New York, London: The Guilford Press.
- Cassidy, J. & Kobak, R. (1987). Avoidance and its relation to other defensive processes. In J.Belsky & T.Nezworski (Ed.), *Clinical implications of attachment*, 300-325. Hillsdale, NJ: Erlbaum.
- Cassidy & Marvin, (1992). *A system for classifying individual differences in the attachment behaviour of 2 ½ to 4 ½ year-old children*. Unpublished manuscript, University of Virginia. .
- Cassidy, J. & Shaver, P. (Eds.) (1999). *Handbook of attachment: Theory, research and clinical applications*. NY: The Guilford Press.

- Chess, S., & Thomas, A. (1982). Infant bonding: mystic and reality. *American Journal of Orthopsychiatry*, 5, 213-222.
- Chomsky, N. (1977). *Réflexions sur le langage*. Paris: Maspero.
- Cicchetti, D., & Tucker, D. (1994). Development and self-regulatory structures of the mind. *Development and Psychopathology*, 6, 533-549.
- Clarke-Stewart (1978). *Child Care in the Family: A Review of Research and Some Propositions for Policy*. Academic press.
- Clulow, C. (2001). Attachment theory and the therapeutic frame. In C. Clulow (Ed.), *Adult attachment and couple psychotherapy*, 85-105, Sussex: Brunner-Routledge.
- Cohen, L. (1974). The operational definition of human attachment. *Psychological Bulletin*, 81, 207-217.
- Cohn, D., Silver, D., Cowan, C., Cowan, P., Pearson, J. (1992). Working models of childhood attachment and couple relationships. *Journal of family issues*, 13, 432-449.
- Coletta, N. (1981). Social support and the risk of maternal rejection by adolescent mothers. *Psychology*, 109, 191-197.
- Collins, N. (1996). Working Models of Attachment: Implications for Explanation, Emotion, and Behavior. *Journal of Personality and Social Psychology*, 71, 810-832.
- Collins, N., Feeney, B. (2000) A safe haven: An attachment theory perspective on support-seeking and caregiving in intimate relationships. *Journal of Personality and Social Psychology*, 78, 1053-1073.
- Collins, A., Hennighausen, K., Madsen, S., & Roisman, G. (1998). *Dyadic Coding of Couple Interactions: rating qualitative features of close relationships*. Unpublished Coding Manual, Institute of Child development, University of Minnesota, EUA. .
- Collins, & Read (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology*, 58, 4, 644-663.
- Collins, W. & Sroufe, A. (1999) Capacity for intimate relationships: a developmental construction. In: Furman, W., Brown, B.B. & Feiring, C (Eds), *The development of romantic relationships in adolescence*, 125-147, New York: Cambridge University press
- Cowan, P. (1997). Beyond meta-analysis: A plea for a family systems view of attachment. *Child Development*, 68, 601 – 603.

- Cowan, P. & Cowan, C. (2001). A couple perspective on the transmission of attachment patterns. In C. Clulow (Ed.), *Adult attachment and couple psychotherapy: The 'secure base' in practice and research*, 63-82. London: Brunner-Routledge.
- Cowan, P. & Cowan, C. (2003). Normative family transitions, normal family processes, and healthy child development. In F. Walsh (Ed.), *Normal Family Processes: Growing diversity and complexity* (3<sup>rd</sup> Ed), 424-459. New York: Guilford press.
- Cowan, C. & Cowan, P. (2005) Two central roles for couple relationships: breaking negative intergenerational patterns and enhancing children's adaptation. *Sexual and Relationship Therapy*, 20, 275-288.
- Cox, M., Tresch Owen, M., Henderson, V., & Margand, N. (1992). Prediction of infant – father and infant – mother attachment. *Developmental Psychology*, 26, 474-483.
- Cozzarelli, C., Hoekstra, S., & Bylsma, W. (2000). General versus specific mental models of attachment: Are they associated with different outcomes? *Personality and Social Psychology Bulletin*, 26, 605-618.
- Craik (1943). *The Nature of Explanation*. Cambridge: Cambridge University Press.
- Crittenden, P. (1988). Relationships at risk. In J. Belsky & T. Nezworsky (Eds.), *Clinical implications of attachment*. Hillsdale: Lawrence Erlbaum.
- Crittenden, P. (1995). Attachment and psychopathology. In S. Goldberg, R. Muir & J. Kerr (Eds.), *Attachment theory: social, developmental and clinical perspectives*, 367-406. Hillsdale, NJ: Analytic Press.
- Crittenden, P. (1999). Danger and development: The organization of self-protective strategies. In J. Vondra & D. Barnett (Eds.), *Monographs for the Society for Research on Child Development*, 64(3, serial N° 258), 145-171.
- Crittenden, P. (2000). A dynamic-maturational approach to continuity and change in patterns of attachment. In P.M. Critenden & A.H. Clausson (Eds.), *The organization of attachment relationships: Maturation, culture and context*, 343-357. New York: Cambridge University Press.
- Crockenberg, S. (1981). Infant irritability, maternal support and social support influences on the security of infant-mother attachment. *Child Development*, 52, 857–869.
- Crowell, J., Fraley, R. & Shaver, P. (1999). Measurement of individual differences in adolescent and adult attachment. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications*, 434-465. NY: The Guilford Press.

- Crowell, J., Pan, Y., Treboux, D. & Waters, E (1998). *Scoring adults' secure base use and support: overview of the secure base scoring system (SBSS)*. From <http://www.psychology.sunysb.edu/attachment/measures/content/sbss.pdf>.
- Crowell, J., O'Conner, E., Wollmers, G., Sprafkin, J., & Rao, U. (1992). Mothers' conceptualizations of parent-child relationships: Relation to mother-child interaction and child behaviour problems. *Development and Psychopathology*, 3, 431-444.
- Crowell, J. & Owens, G. (1996). *Current Relationship Interview and scoring system*. Unpublished manuscript. University of New York at Stony Brook. .
- Crowell, J., Treboux, D. (1995). A review of adult attachment measures. Implications for theory and research. *Social Development*, 4, 294- 327
- Crowell, J.A. , Treboux, D. & Waters, E. (1999) The adult attachment interview and the relationship questionnaire; relation to reports of mothers and partners. *Personal Relationships*, 6, 1-18
- Crowell, J., & Treboux, D. (2001). Attachment security in adult partnerships. In C. Clulow (Ed.), *Adult attachment and couple psychotherapy: The 'secure base' in practice and research*, 28 – 42. Philadelphia, PA: Brunner-Routledge.
- Crowell, J., Treboux, D., Gao, Y., Fyffe, C., Pan, H., & Waters, E. (2002). Assessing secure base behavior in adulthood: Development of a measure, links to adult attachment representations, and relations to couple's communication and reports of relationship. *Developmental Psychology*, 38 (5), 679-693.
- Crowell, JA., Waters, E., Treboux, D., O'Connor, E. et al, (1996) Discriminate validity of the Adult Attachment Interview. *Child Development*, 67, 2584-2599.
- Cummings, E., & Davies, P. (1994). *Children and marital conflict: The impact of family dispute and resolution*. New York: Guilford Press.
- Cummings, E., Davies, P. & Campbell, S. (2000). *Developmental psychopathology and family process: theory, research, and clinical implications*. New York: Guilford Press.
- Cutrona, C., & Russell, D. (1990). Type of social support and specific stress: Toward a theory of optimal matching. In B. R. Sarason, I. G. Sarason, & G. R. Pierce (Eds.), *Social support: An interactional view*, 319–366. New York: Wiley.
- Dallos, R. (2004). Attachment narrative therapy: integrating ideas from narrative and attachment theory in systemic family therapy with eating disorders. *Journal-of-family-therapy*, 26(1), 40-65.

- Dalton III, W., Frick-Horbury, D, Kitzmann, K. (2006). Young adults' retrospective reports of parenting by mothers and fathers: associations with current relationship quality. *The Journal of General Psychology*, 133, 5-18.
- Damasio, A. (1998). Emotion in the perspective of an integrated nervous system. *Brain Research Reviews*, 26, 83-86.
- Damasio, A. (1994). *The Descartes' error: Emotion, reason, and the human brain*. New York: Grosset/Putnam.
- Das Eiden, R., Teti, D., & Corns, K. (1995). Maternal working models of attachment, marital adjustment and the parent-child relationship. *Child Development*, 66, 1504-1575.
- Das Eiden, R., & Leonard, K. (1996). Paternal alcohol use and the mother-infant relationship. *Development and Psychopathology*, 8, 307-323.
- Davies, P. (2002) Conceptual Links Between Byng-Hall's Theory of Parentification and the Emotional Security Hypothesis, *Family Process*, 41, 551-555
- Davies, P., and E.M. Cummings. (1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychology Bulletin*, 116, 387-411.
- Davila, J, Bradbury, T., Fincham, F, (1998). Negative affectivity as a mediator of the association between adult attachment and marital satisfaction. *Personal Relationships*, 5, 467-484.
- De Haas , M.A., Bakermans-Kranenburg, M.J., Van IJzendoorn, M. (1994). The adult attachment interview and questionnaires for attachment styles, temperament and memories of parental behaviour. *The Journal of Genetic Psychology*, 155, 471-486.
- De Wolff, M., and M. Van IJzendoorn. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development*, 68, 571-591.
- Dolan, R., Arnkoff, D. & Glass, C. (1993). Client attachment style and the psychotherapist's interpersonal stance. *Psychotherapy*, 30, 408-412.
- Dozier, M. (1990). Attachment organization and treatment use for adults with serious psychopathological disorders. *Development and Psychopathology*, 2, 47-60.
- Dozier, M., Cue, K., & Barnett, L. (1994). Clinicians as caregivers: The role of attachment organization in treatment. *Journal of Consulting and Clinical Psychology*, 62, 793-800.
- Duggal, S., Carlson, E., Sroufe, L., et al. (2001). Depressive symptomatology in childhood and adolescence. *Developmental Psychopathology*, 13, 143-164.

- Dozier, M & Kobak, RR. (1992) Psychophysiology in Attachment interviews: Converging Evidence for deactivating strategies. *Child Development*, 63, 1473-1480.
- Easterbrooks, M.A., & Goldberg, W.A. (1990). Security of toddler-parent attachment: relation to children's sociopersonality functioning during kindergarten. In: M.T.Greenberg, D.Cicchetti, & E.M.Cummings (Eds), *Attachment in the preschool years - theory, research, and intervention*. Chicago: The University of Chicago Press.
- Edelman, G. (2005). *Neural darwinismo*. New York: Basic Books.
- Egeland, B. & Sroufe, A. (1981). Developmental sequelae of maltreatment in infancy. In Cichetti & Rizley (Eds.), *New Approaches to Child Maltreatment*, 44-52. San Francisco, CA: Jossey Bass.
- Egeland, B. & Farber, E. (1984). Infant-mother attachment: factors related to its development and changes over time. *Child Development*, 55, 753-771.
- Elicker, J., Englund, M., & Sroufe, L. (1992). Predicting peer competence and peer relationships in childhood from early parent-child relationship. In R.D. Parke & G.W. Ladd (Eds.), *Family-peer relationships: modes of linkage*, 77-106. Hillsdale: Erlbaum.
- Englund, M., Levy, A., & Hyson, D. (1997, Abril). *Development of adolescent social competence: a prospective longitudinal study of family and peer contributions*. Poster presented at the Biennial Meeting of the Society for Research in Child Development, Washington, DC.
- Erickson, M., Egeland, B., & Sroufe, A. (1985). The relationship between quality of attachment and behavior problems in preschool in a high risk sample. *Monogr Soc Res Child Dev*, 50, 147-186.
- Ewing, K., & Pratt, M. (1995). *The role of adult romantic attachment in marital communication and parenting stress*. Poster presented in the biennial meeting of the Society for Research in Child Development, Indianapolis, IN.
- Feeney, J. (1994). Attachment style, communication patterns and satisfaction across the life cycle of marriage. *Personal Relationships*, 1, 333-348.
- Feeney, J. (1999). Adult romantic attachment and couple relationships. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications*, 355-377. NY: The Guilford Press.
- Feeney, J. & Noller, P. (1990): Attachment style as a predictor of adult romantic relationships. *Journal of Personality and Social Psychology*, 58, 281-291.

- Feeney, J., Noller, P., & Callan, V. (1994). Attachment style, communication and satisfaction in the early years of marriage. In K. Bartholomew & D. Perlman (Eds.), *Attachment processes in adulthood*, 269-308. London: Jessica Kingsley.
- Feeney, J.A. (2003). The systemic nature of couple relationships. An attachment perspective. In: Erdman & Caffery (Eds), *Attachment and family systems*, 139-163, New York: Brunner Routledge.
- Field, N., Gao, B, and Paderna, L. (2005) Continuing Bonds in Bereavement: An Attachment Theory Based Perspective, *Death Studies*, 29, 277-299
- Fonagy, P. (1989). On tolerating mental states: Theory of mind in borderline patients. *Bulletin, Anna Freud Center*, 12, 91-115.
- Fonagy, P. (1993). *Reflective Self Function in Early Attachment and Borderline States*. Tavistock/ Routledge.
- Fonagy, P. (1999). Psychoanalytic theory from the viewpoint of attachment theory and research. In: J. Cassidy and P.R. Shaver (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Applications*, 595–624. New York: Guilford.
- Fonagy, P., Target, M., (2005). Bridging the transmission gap: an end to an important mystery of attachment research? *Attachment and Human Development*, 7(3), 333-343.
- Fonagy, P., Steele, H. & Steele, M. (1991). Maternal representations of attachment during pregnancy predict the organization of infant mother attachment at one year of age. *Child Development*, 62, 891-905.
- Fonagy, P., Steele, M., Steele, H., Higgitt, A., & Target, M. (1994). The theory and practice of resilience. *Journal of Child Psychology and Psychiatry*, 35 (2), 231-257.
- Fonagy, P., Target, M. (1996). Playing with reality. Theory of Mind and the normal development of psychic reality. *International Journal of Psycho- analysis*, 77, 217- 233.
- Fonagy, P., Target, M., (1997) Attachment and Reflective Function: Their role in self- organization. *Development and Psychopathology*, 9, 679- 700.
- Fox, N., Kimmerly, N., & Schafer, W. (1991). Attachment to mother/attachment to father: A meta-analysis. *Child Development*, 62, 210-225.

- Fraley, R., Davis, K., Shaver, P. (1998). Dismissing avoidance and the defensive organisation of emotion, cognition and behavior. In J. Simpson & W. Rholes (Eds.), *Attachment theory and close relationships*. New York. Guilford Press
- Fraley, R., Garner, J., Shaver, P. (2000). Adult Attachment and the defensive Regulation of Attention and Memory: Examining the Role of Preemptive and Postemptive Defensive Processes. *Journal of Personality and Social Psychology*, 79, 816-826.
- Fraley, R. & Waller, N. (1998). Adult attachment patterns. A test of the typological model. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships*, 77-114. New York: Guilford Press.
- Frankel, K., & Bates, J. (1990). Mother-toddler problem solving: antecedents in attachment, home behavior and temperament. *Child Development*, 61, 810-819.
- Fremmer-Bombik, E., Rudolph, J., Veit, B., Schwarz, G. & Schwarzmeier, I. (1989). *The Regensburg method of analyzing the Adult Attachment Interview*. Universitat Regensburg. Unpublished manuscript.
- Freud, S. (1949/1953). *Abriss des Psychoanalyse* (An outline of psychoanalyses). Frankfurt am Main: Fisher Bucheri. .
- George, C., Kaplan, N., & Main, M. (1984, 1985, 1996) *Attachment interview for adults* (Unpublished manuscript.).
- George, C. & West, M. (1999). Developmental vs. social personality models of adult attachment and mental ill health. *British Journal of Medical Psychology*, 72, 285-303.
- Glaser, D. (2000). Child abuse and neglect and the brain: A review. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 4, 97-116.
- Gloger-Tippelt, G, Gomille, B, Koenig L & Vetter Juergen (2002). Attachment representations in 6 – year-olds : Related longitudinally to the quality of attachment in infancy and mothers' attachment representations. *Attachment & Human Development*, 4, 318-339
- Goldberg, S. (2000). *Attachment and development*. London: Arnold.
- Goosens, F. & Van IJzendoorn, M. (1990). Quality of infants' attachment to professional caregivers: Relation to infant-parent attachment and day-care characteristics. *Child Development*, 61, 832-837.
- Graffar, M. (1956). Méthode de classification d'échantillons de la population. *Courrier*, 6, 455-459.

- Greenberg, M., DeLyon, M., Speltz, M. And Endriga, M. (1997). The role of attachment processes in externalizing psychopathology in young children. In L. Atkinson & K. Zucker (Eds.), *Attachment and psychopathology*, 196-222. NY: The Guildford Press.
- Greenberg, M., Speltz, M., DeKlyen, M., et al. (1991). Attachment security in preschoolers with and without externalizing behavior problems: replication. *Developmental Psychopathology*, 3, 413-430.
- Griffin, D., Bartholomew, K. (1994a). The metaphysics of measurement : the case of adult attachment. *Advances in personal relationships*, 5, 17-52.
- Grossmann, K., Grossmann, K.E., Huber, F., et al., (1981). German children's behavior towards their mothers at 12 months and their fathers at 18 months in Ainsworth's strange situation. *Int J Behav Dev.*, 4, 157-181.
- Grossmann, K., Grossmann, K. E., Spangler, G. , Suess, G., & Unzner, L. (1985). Maternal sensitivity and newborns' orientation responses as related to quality of attachment in northern Germany. In Bretherton, I. & Waters, E. (Eds), *Growing Points of Attachment Theory and Research, Monographs of the Research in child Development*, 209, 50, 1-2.
- Grossmann, K. E., Grossmann, K., & Zimmermann, P. (1999). A Wider view of attachment and exploration: stability and change during the years of immaturity. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications*, 760-786. New York: Guilford.
- Grossmann, K., Grossmann, K. E., Fremmer-Bombik, E., Kindler, H., Scheuerer-Englisch, H., & Zimmermann, P. (2002). The uniqueness of the child-father attachment relationship: Fathers' sensitive and challenging play as a pivotal variable in a 16-year longitudinal study. *Social Development*, 11(3), 307-331.
- Grossman, K, Grossman, K. (2005) The Impact of Attachment to Mother and Father at an Early Age on Children's Psychosocial Development through Young Adulthood. *Encyclopedia on Early Childhood Development*, 1-7.
- Grossmann, K. E., Grossmann, K., & Kindler, H. (2005). Early care and the roots of attachment and partnership representations: The Bielefeld and Regensburg longitudinal studies. In K. E. Grossmann, K. Grossmann, & E. Waters (Eds.), *Attachment from infancy to adulthood: The major longitudinal studies*, 98-136. New York: Guilford.

- Grossmann, K., E., Grossmann, K., Winter, M. & Zimmermann, P. (2005). Attachment relationships and appraisal of partnership: From early experience of sensitive support to later relationship representation. In L. Pulkkinen & A. Caspi (Eds.), *Paths to successful development*. Cambridge University Press.
- Grossman, K., Fremmer-Bombik, E., Rudolph, J., & Grossman, K.E. (1988). Maternal attachment representations as related to patterns of infant-mother attachment and maternal care during the first year. In A. Hinde & J. Stevenson-Hinde (Eds.), *Relationships within families*, 241-260. Oxford: Oxford University Press.
- Guedeney, N., (2005). *Apport de la théorie de l'attachement à la relation d'aide. Illustration : Etude des liens entre le système d'attachement et l'alliance de travail sur un échantillon de 130 sujets recourant à une demande d'aide sociale*. Thèse d'Université Paris 6 Pierre et Marie Curie. Discipline Sciences de la Vie et de la Santé, Ecole Doctorale 3C : Cerveau, Cognition et Comportement.
- Gunnar, M. (2001). Early adversity and the development of stress reactivity and regulation. In Nelson C. (Ed.), *The Effects of Adversity on Neurobehavioral Development*, 31. Minnesota Symposia on Child Psychology, 163-200. Mahwah, NJ: Lawrence Erlbaum.
- Gunnar, M.R., Mangelsdorf, S., Larson, M., & Hertsgaard, L. (1989). Attachment, temperament, and adrenocortical activity in infancy: A study of psychoendocrine regulation. *Developmental Psychology*, 25, 355-363.
- Gustafson, J. (1986). *The complex secrets of brief psychotherapy*. New York: Norton.
- Haley, J. (1976). *Problem-solving therapy*. San Francisco: Jossey-Bass.
- Harris, T., (2002). Attachment – related psychodynamics: another shake to the kaleidoscope. *Attachment and Human Development*, 4, 201-206.
- Hazan, C., Shaver, P. (1987) Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 52, 511- 524.
- Hazan, C., & Shaver, P. (1990). Love and work: an attachment theoretical perspective. *Journal of Personality and Social Psychology*, 52, 270-280.
- Hazan, C. & Shaver, P. (1994). Attachment as an organizational framework for research on close relationships. *Psychological Inquiry*, 5, 1-22.

- Hazan, C. & Zeifman, D. (1999). Pair bonds as attachment: Evaluating the evidence. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications*, 355-377. NY: The Guilford Press.
- Heinicke, C., & Westheimer, I. (1966). *Brief separations*. New York: International University Press.
- Henderson, S., Duncan-Jones, P., & Byrne, D.(1980). Measuring social relationships: The interview schedule for social interaction. *Psychological Medicine*, 10, 723-734.
- Hesse, E. (1996). Discourse, memory, and the adult attachment interview: a note with emphasis on the emerging cannot classify category. *Infant Mental Health Journal*, 17, 4-11.
- Hesse, E. (1999). The Adult Attachment Interview. Historical and current perspectives. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications*. New York, London: The Guilford Press.
- Hesse, E. & Main, M. (1999). Frightened behavior in traumatizing but non-maltreating parents: previously unexamined risk for offspring. In D.Diamond & S. J. Blatt (Eds.), *Psychoanalytic theory and attachment research I: theoretical considerations*.
- Hill, J., Fonagy, P., Safier, E., & Sargent, J. (2003). The ecology of attachment in the family. *Family Process*, 42 (2), 205-221.
- Hinde, R. A. (1982). Attachment: Some conceptual and biological issues. In C. M. Parkes & Stevenson-Hinde (Eds.), *The place of attachment in human behaviour*. New York: Basic Books.
- Hinde, R. A. (1982b). *Ethology: Its nature and relations with other sciences*. Glasgow: Fontana Press.
- Hinde, R., & McGinnis, L. (1977). Some factors influencing the effects of temporary infant-mother separation. *Psychological Medicine*, 7, 197-212.
- Hinde, R. (2005). Ethology and Attachment Theory, 1-12, In Grossmann, K. E. & Grossmann, K. & Waters, E. (Eds), *Attachment from Infancy to Adulthood. The Major Longitudinal Studies*. NY: The Guilford Press.
- Holmes, J (2001). *The search for a secure base. Attachment theory and psychotherapy*. NY: Routledge.
- Howes, C. & Markman, H. (1989). Marital quality and child functioning: a longitudinal investigation. *Child Development*, 60, 1044-1051.
- Hrdy, SB (2005) *Evolutionary context of human development: the cooperative breeding model*. In *Dahlem Workshop on Attachment and Bonding: a new synthesis*, 9-32. Massachusetts Institute of Technology and Freie Universitat Berlin, Berlin.

- Inhelder, B. & Piaget, J. (1966). *La psychologie de l'enfant*. Presses Universitaires de France.
- Isabella, R. (1993). Origins of Attachment: maternal interactive behaviour across the first year. *Child Development, 60*, 1044-1051.
- Isabella, R. (1994). Origins of maternal role satisfaction and its influences upon maternal interactive behavior and infant-mother attachment. *Infant Behavior and Development, 17*, 381-388.
- Jacobvitz, D, Curran, M, Moller, N. (2002). Measurement of adult attachment : The place of self-report and interview methodologies. *Attachment & Human Development, 14*, 207-215.
- Jacobitz, D., Hazen, N., & Riggs, S. (April 1997). *Disorganized mental processes in mothers, frightened/frightening caregiving, and disorganized/disoriented behavior in infancy*. Presented at the Society for Research in Child Development. Washington, DC..
- Jacobvitz, D. & Hazen, N. (1999). Developmental pathways from infant disorganization to childhood peer relations. In J. Solomon & C. George (Eds.), *Attachment disorganization*, 127-159. NY: The Guilford Press.
- Jacobitz, D., Morgan, E., Kretchmar, M., & Morgan, Y. (1991). The transmission of mother-child boundary disturbances across three generations. *Development and Psychology, 3(4)*, 513-527. US: Cambridge
- Jang, S., Smith, S., & Levine, T. (2002). To Stay or To Leave? The Role of Attachment Styles in Communication Patterns and Potential Termination of Romantic Relationships Following Discovery of Deception. *Communication Monographs, 69*, 236-252.
- Johnson, S. & Best, M. (2002). A systemic approach to restructuring attachment : The EFT model of couple therapy. In P. Erdman & T. Caffrey (Eds.), *Attachment and family systems: conceptual empirical, and therapeutic relatedness*, 165-192. New York: Guilford Press.
- Kestenbaum, R., Farber, E., & Sroufe, A. (1989). Individual differences in empathy among preschoolers: relation to attachment history. In N. Eisenberg (Ed.), *New directions for child development: N° 44. Empathy and related emotional responses*, 51-64. San Francisco: Jossey-Bass.
- Kirkpatrick, L., Davies, K. (1994). Attachment style, gender and relationship stability: a longitudinal analysis. *Journal of Personality and Social Psychology, 66*, 502-512.
- Kirckpatrick, L. & Hazan, C.(1994). Attachment styles and close relationships: a four-year prospective study. *Personal Relationships, 2*, 229-237.

- Kirkpatrick, L. & Shaver, P. (1992). An attachment approach to romantic love and religious belief. *Personality and Social Psychology Bulletin*, 18, 266-275.
- Kobak, R. (1993). *The Attachment Q-Sort*. Unpublished manuscript. University of Delaware.
- Kobak, R. & Hazan, C. (1991). Attachment in marriage: Effects of security and accuracy of working models. *Journal of Personality & Social Psychology*, 60(6), 861 – 869.
- Kobak, R., & Hazan, C. (1992). *Parents and spouses: Attachment strategies and marital functioning*. Unpublished manuscript, University of Delaware..
- Kobak, R. & Sceery A. (1988). Attachment in late adolescence: working models, affect regulation, and representations of self and others. *Child Development*, 59, 135-146.
- Kobak, R. & Shaver, P. (1987). *Strategies for maintaining felt security: A theoretical analysis of continuity and change in styles of social adaptation*. University of Denver.
- Korfmacher, J., Adam, E., Ogawa, J., & Egeland, B. (1997). Adult attachment: implications for the therapeutic process in a home visitation intervention. *Applied Developmental Science*, 1, 43- 52.
- Kozlowska, K. & Hanney, L. (2002). The network perspective: An integration of attachment and family systems theories. *Family Process*, 41(3), 285-312.
- Kretchmar, M. (1995). Mother-child observations across three generations: Boundary patterns, attachment and the the transmission of caregiving. *Dissertation Abstracts International: Section B: The Sciences and Engineering US: ProQuest Information & learning*, vol. 56 (10-B): 5796.
- Kretchmar, M. & Jacobitz, D. (2002). Observing mother-child relationships across generations: boundary patterns, attachment, and the transmission of caregiving. *Family Process*, 41 (3), 351-374.
- Lamb, M. E. (1975). Fathers: Forgotten contributors to child development. *Human Development*, 18, 245–266.
- Lamb, M. E. (1997). Fathers and child development. An introductory overview and guide. In M. Lamb (Ed.), *The role of the father in child development*, 1–18. New York: Wiley.
- Leconte, J. (1997). Construction of reality . *Sciences-humaines:-Auxerre*, 71, 20-25.
- Levine, L. & Tuber, S. (1991). Mother's mental representations and their relationship to mother-infant attachment. *Bulletin of the Menninger Clinic*, 55(4), 454-470.
- Lieberman, A. F., Weston, D., & Pawl, J. H. (1991). Preventive intervention and outcome with anxiously attached dyads. *Child Development*, 62, 199 - 209.

- Lima, V., Soares, I., Vieira, F., & Collins, A. (2005). *A Intimate Relationship Interview e sistema de cotação, versão 1.0*, Unpublished Manuscript, University of Minho, Braga, Portugal.
- Liotti, G. (1992). Patterns of attachment and the assessment of interpersonal schemata: Understanding and changing difficult patient-therapist in cognitive psychotherapy. *Journal of Cognitive Psychotherapy, 5*, 105-111.
- Liotti, G.(2005). Disorganization of attachment as a model for understanding dissociative psychopathology. In Solomon, J & George, C (Eds), *Attachment Disorganisation*, 291-317, NY: The Guildford press.
- Lundy, B. (2002). Paternal socio-psychological factors and infant attachment: The mediating role of synchrony in father-infant interactions. *Infant Behav. Dev. 25*, 221–236.
- Lütkenhaus, P., Grossman, K.E., & Grossman, K. (1985). Infant-mother attachment at twelve months and style of interaction with a stranger at the age of three years. *Child Development, 56*, 1538-1542.
- Lyons-Ruth, K., Bronfman, E., & Parsons, E. (1999). Maternal disrupted affective communication, maternal frightened or frightening behavior, and disorganized infant attachment strategies. *Monogr Soc Res Child Development, 64*, 67-96.
- Lyons-Ruth, K., Easterbrooks, M.A., & Cibelli, C.E. (1997). Disorganized attachment strategies and mental lag in infancy: Prediction of externalizing problems at age seven. *Developmental Psychology, 33*, 681-692.
- Lyons-Ruth, K., Repacholi, B., McLeod, S., et al. (1991). Disorganized attachment behavior in infancy : short-term stability, maternal and infant correlates and risk-related subtypes. *Developmental Psychopathology, 3*, 377-396.
- Lyons-Ruth, K, Yellin, C, Melnick, S, Atwood, G. (2003) Childhood experiences of trauma and loss have different relations to maternal unresolved and Hostile-Helpless states of mind on the AAI. *Attachment & Human Development, 5*, 330-352.
- Madanes, C. (1981). *Strategic family therapy*. San Francisco: Jossey-Bass.
- Mahler, M., Pine, F., Bergman, A. (1975). *The psychological birth of the human infant: Symbiosis and individuation*. New York: Basic Books.
- Main, M. (1981). Avoidance in the service of attachment: a working paper. In K.Immelman, G.Barlow, L.Petrinovich, & M.Main (Eds.), *Behavioral development: The Bielefeld interdisciplinary program*, 651-693. Cambridge, England: Cambridge University Press.

- Main, M. (1991). Metacognitive knowledge, metacognitive monitoring, and singular (coherent) versus multiple (incoherent) models of attachment: Findings and directions for future research. In C.Parkes, J.Stevenson-Hinde, & P.Marris (Eds.), *Attachment across the life cycle*, 127-159. London: Routledge.
- Main, M. (1995). Attachment: Overview with implications for clinical work. In S. Goldberg, R. Muir & J. Kerr (Eds.). *Attachment theory: social development, and clinical perspectives*, 407-474. Hillsdale, NJ: Analytic Press.
- Main, M. (1999). Epilogue. Attachment theory: Eighteen points with suggestions for future studies. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications*, 845-888. NY: The Guilford Press.
- Main, M. & Cassidy, J. (1988). Categories of response to reunion with the parent at age 6: Predictable from infant attachment classifications and stable over a 1-month period. *Developmental Psychology*, 24, 1-12.
- Main, M. & Goldwyn, R. (1984 - 1998). *Adult attachment scoring and classification system*. Unpublished manuscript. University of California at Berkeley.
- Main, M. & Hesse, E. (1990). Lack of resolution of mourning in adulthood and its relationship to infant organization: Some speculation regarding causal mechanisms. In M. Greenberg, D. Cicchetti & M. Cummings (Eds.), *Attachment in the preschool years: Theory, research and intervention*. Chicago: The University of Chicago Press.
- Main, M. & Hesse, E. (1990). Parents' unresolved traumatic experiences are related to infant disorganized attachment status: Is frightening and/or frightening parental behaviour the linking mechanism? In M. Greenberg, D. Cicchetti & E. Cummings (Eds.), *Attachment in the preschool years*, 161-182. Chicago: Chicago University Press.
- Main, M., Kaplan, N. & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research. Monographs of the Society for Research in Child Development*, 50 (1-2, Serial No. 209), 66-104.
- Main, M. & Morgan, H. (1996). Disorganization and disorientation in infant strange situation behavior: phenotypic resemblance to dissociative states. In L. Michelson & W. Ray (Eds.), *Handbook of dissociation: Theoretical, empirical, and clinical perspectives*, 107-138. New York: Plenum Press.

- Main, M. & Solomon, J. (1986). Discovery of a new insecure-disorganized/disoriented during the Ainsworth Strange Situation? In T. Brazelton & M. Yogman (Eds.), *Affective development in infancy*, 95-124. Norwood, NJ: Ablex.
- Main, M. & Solomon (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth Strange Situation. In M. Greenberg, D. Cicchetti & E. Cummings (Eds.), *Attachment in the preschool years: Theory, research and intervention*. Chicago: The University of Chicago Press.
- Main, M. & Weston, D. (1981). The quality of the toddler's relationship to mother and father: Related to conflict behavior and the readiness to establish new relationships. *Child Development*, 52, 932-940.
- Mangeldorf, S., Gunnar, M., Kestenbaum, R., et al. (1990). Infancy proneness-to-distress temperament, maternal personality, and mother-infant attachment: associations and goodness of fit. *Child Development*, 61, 820-831.
- Marvin, R. (1977). An ethological cognitive model for the attenuation of mother-child attachment behavior. In T. Alloway, L. Krames & P. Pliner (Eds.), *Advances in the study of communication and affect, Vol. 3: The development of social attachments*. New York: Plenum Press.
- Marvin, R. & Britner, P. (1999). Normative development: The ontogeny of attachment. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications*, 44-67. NY: The Guilford Press.
- Marvin, R. & Stewart, R. (1990). A family systems framework for the study of attachment. In M.T.Greenberg, D.Cicchetti, & E. Cummings (Eds.), *Attachment in the preschool years: Theory, research and intervention*, 51-86. Chicago: University of Chicago Press.
- Matas, L., Arend, R., & Sroufe, A. (1978). Continuity of adaptation in the second year: the relationship between quality of attachment and later competence. *Child Development*, 49, 547-556.
- Mead, G. (1934). *Mind, self and society*. Chicago: University of Chicago Press.
- Meins, E, Fernyhough, C, Fradley, E, Tuckey, M. (2001). Rethinking Maternal Sensitivity : Mothers' Comments on Infants' Mental Processes Predict Security of Attachment at 12 monts. *Child Psychology Psychiatry*, 42, 637-648.
- Mikulincer, M, Gillath, O., Halevy, V., Avihou, N., & Eshkoli, N. (2001). Attachment theory and reactions to others' needs: Evidence that activation of the sense of attachment security promotes empathic responses. *Journal of Personality and Social Psychology*, 81, 1205-1224.

- Mikulincer, M, Horesh, N, Levy-Shiff, R, & Manovich, R. (1998). The contribution of adult attachment style to the adjustment to infertility. *British Journal of Medical Psychology Society*, 71, 265-280.
- Mikulincer, M., Florian, V., Cowan, P., & Cowan, C. (2002). Attachment in couple relationships: A systemic model and its implications for family dynamics. *Family Process*, 41(3), 405-434.
- Mikulincer, M., Shaver, P., & Pereg, D. (2003). Attachment theory and affect regulation: the dynamics, development, and cognitive consequences of attachment-related strategies. *Motivation and Emotion*, 27 (2), 77-100.
- Miljkovitch, R. (2001). *L'attachement au cours de la vie*. Le fil rouge, PUF, Paris, 279pp
- Minuchin, S. (1985). Families and individual development: Provocations from the field of family therapy. *Child development*, 56, 289-302.
- Morris, D. (1980). *Infant attachment and problem solving in the toddler: relations to family history*. Unpublished doctoral thesis. University of Minnesota. .
- Morris, D. (1981). Attachment and intimacy. In G. Stricker & M. Fisher (Eds.). *Intimacy*. New York: Plenum.
- Nelson, A. & Bloom, E. (1989). Child Development and neuroscience. *Child Development*, 68, 970-987.
- Nelson, K. & Gruendel, J. (1981). Generalized event representation: Basic building blocks of cognitive development. In M. Lamb & A. Brown (Eds.), *Advances in developmental psychology*. Hillsdale, NJ: Lawrence Erlbaum.
- NICHD Early Child Care Research Network (1997). The effects of infant child care on infant-mother attachment security: results of the NICHD study of early child care. *Child Development*, 68, 925-933.
- NICHD Early Child Care Research Network. (2004) Affect dysregulation in the mother-child relationship in the toddler years: Antecedents and consequences. *Development and Psychology*, 16, 43-68.
- NICHD Early Child Care Research Network (January 2007). *Psicopatologia do Desenvolvimento*. Oral Communication by Prof. Jay Belsky at the Departamento de Psicologia da Universidade do Minho. Braga.
- O'Connor, T G , Croft, C M. (2001). A Twin Study of Attachment in Preschool Children. *Child Development*, 72, 1501-1511.

- O'Connor, E., Pan, H., Treboux, D., Waters, E., Crowell, J., Teti, D., & Posada, G. (1995). *Women's adult attachment security and quality of marriage*. Unpublished manuscript, State University of New York at Stony Brook..
- O'Connor, M., Sigman, M., & Brill, N. (1987). Disorganization of attachment in relation to maternal alcohol consumption. *J Consult Clin Psychol*, *55*, 831-836.
- Ogawa, J., Sroufe, L., Weinfield, N., et al. (1997). Development and the fragmented self: a longitudinal study of dissociative symptomatology in a non-clinical sample. *Developmental Psychopathology*, *4*, 855-879.
- Owens, G. (1993). *An interview-based approach to the study of adult romantic relationships*. Unpublished manuscript, State University of New York at Sony Brook.
- Owen, M., & Cox, M. (1997). Marital conflict and the development of infant-parent attachment relationships. *Journal of Family Psychology*, *11*, 152-164.
- Paley, B., M. Cox., K. Harter, and N. Margand. (2002). Adult attachment stance and spouses' marital perceptions during the transition to parenthood. *Attach. Hum. Dev.* *4*, 340–360.
- Parkes, C. & Stevenson-Hinde, J. (1982). *The place of attachment in human behaviour*. London: Tavistock Publications.
- Pastor, D. (1981). The quality of mother-infant attachment and its relationship to toddler's initial sociability to peers. *Developmental Psychology*, *17*, 323-335.
- Pearson, J., Cohn, D., Cowan, P., & Cowan, C. (1994). Earned and continuous security in adult attachment: Relation to depressive symptomatology and parenting style. *Development and Psychopathology*, *6*, 259-373.
- Pederson, D. R., Gleason, K. E., Moran, G., & Bento, S. (1998). Maternal attachment representations, maternal sensitivity, and the infant-mother attachment relationship. *Developmental Psychology*, *34* (5), 925-933.
- Perlmutter, M. & Hatfield, E. (1980). Intimacy, Intentional Metacommunication and Second Order Change. *American Journal of Family Therapy*, *8*(1), 17-23.
- Piaget, J. (1936/1975). *O nascimento da inteligência na criança*. Rio de Janeiro: Zahar Editores.
- Piaget, J. (1954). *The construction of reality in the child*. New York: Basic Books.

- Pianta, R., Egeland, B., & Sroufe, A. (1990). Maternal stress in children's development: predictions of school outcomes and identification of protective factors. In Rolf, Masten, Cicchetti, et al. (Eds.). *Risk and Protective Factors*, 215-235. New York: Plenum Publishers.
- Pistole, M. (1989). Attachment in adult romantic relationships: Styles of conflict resolution and relationship satisfaction. *Journal of Social and Personal Relationships*, 6, 505-510.
- Pohelmann, J. (2003). An attachment perspective on grandparents raising their very young grandchildren: implications for intervention and research. *Infant Mental Health Journal*, 24 (2), 149-173.
- Posada, G., Jacobs, A., Carbonell, O., et al. (1999). Maternal care and the attachment security in ordinary and emergency contexts. *Developmental Psychology*, 34, 925-933.
- Posada, G., Waters, E., Crowell, J., et al. (1995). Is it easier to use a secure mother as a secure base? Attachment Q-sort correlated of the Berkeley Adult Attachment Interview. *Monogr Soc Res Child Development*, 48, 133-145.
- Putnam, F. (1994). Dissociation and disturbances of self. In Cicchetti & Toth (Eds.). *Disorders and Dysfunctions of the Self* (5), 251-265. Rochester Symposium on Developmental Psychopathology. Rochester, NY: Rochester University Press.
- Radke-Yarrow, M., Cummings, E., Kuczynski, L. & Chapman, M. (1985). Patterns of attachment in two- and three-years-olds in normal families and families with parental depression. *Child Development*, 56, 884-893.
- Radojevic, M. (1994). Mental representations of attachment among prospective Australian fathers. *Australian and New Zealand Journal of Psychiatry*, 28, 505-511.
- Renken, B., Egeland, B., Marvinney, D., Mangelsdorf, S., & Sroufe, A. (1989). Early childhood antecedents of aggression and passive withdrawal in early elementary school. *Journal of Personality*, 57, 257-281.
- Ricciuti, A. (1992). Child-mother attachment: A twin study. *Diss. Abstr. Intl.* 54:3364-3364. (Univ. Microfilms No. 9324873)..
- Ricks, M. (1983). *Individual differences in the preschooler competence: maternal, familial and infant variables*. Unpublished doctoral thesis. University of Massachussets..
- Ricks, M. (1984). *Secure babies have secure mothers*. Unpublished manuscript. University of Massachussets..

- Ricks, M. (1985). The social transission of parental behavior: attachment across generations. In Bretherthon & E. Waters (Eds.), *Growing points of attachment theory and research*. Monographs of the Society for Research in Child Development, 50 (1-2, Serial N°209), 211-227.
- Robertson, J. & Robertson, J. (1971). Young children in brief separation: a fresh look. *Psychoanalytic Study of the child*, 26, 264-315..
- Rodning, C., Beckwith, L., & Howard, J. (1991). Quality of attachment and home environments in children prenatally exposed to PCP and cocaine. *Developmental Psychopathology*, 3, 351-366.
- Roisman, G., Madsen, S., Hennighausen, K., Sroufe, A., Collins, W. (2001). The coherence of dyadic behavior across parent-child and romantic relationships as mediated by the internalised representation of experience. *Attachment and Human Development*, 3, 156-172.
- Rosen, K. , & Rothbaum, F. (1993). Quality of parental caregiving and security of attachment. *Developmental Psychology*, 29(2), 358-367.
- Rosenfield, (1992). *The strange, familiar and forgotten*. New York: Knopf.
- Rosenstein, D. S. & Horowitz, H. A. (1993). *Working models of attachment in psychiatrically hospitalized adolescents: Relation to psychopathology and personality*. Paper presented at Society for Research in Child Development, New Orleans, LA..
- Rothebard, J., & Shaver, P. (1994). Continuity of attachment across the life span. In M. B. Sperling & W.H. Berman (Eds.), *Attachment in adults – clinical and developmental perspectives*, 31-71. New York: Guilford Press.
- Sagi, A., Koren-Karie, N., Gini, M., Ziv, Y., & Joels, T. (2002). Shedding further light on the effects of various types and quality of early child care on infant-mother attachment relationship: The Haifa study of early child care. *Child Development*, 73, 1166-1187.
- Sameroff, A. (2000) Developmental systems and psychopathology, *Development and Psychopathology*, 12, 297-312
- Sander, L. (1975). Infant and caretaking environment. In Antony (Ed.). *Explorations in Child Psychiatry*, 129-166. New York: Plenum.
- Schachner, D., Shaver, P., Mikulincer, M. (2003). Adult attachment theory, psychodynamics, and couple relationships. In S. Johnson & V. Whiffen (Eds.), *Attachment Processes in couple and family therapy*, 18-42. The Guilford Press, NY.

- Schank, R. (1982). *Dynamic memory: A theory of reminding and learning in computers and people*. Cambridge: Cambridge University Press.
- Schank, R. & Abelson, R. (1977). *Scripts, plans, goals and understanding*. Hillsdale, NJ: Erlbaum.
- Schore, A. (1994). *Affect regulation and the origin of the self: the neurobiology of the emotional development*. Hillsdale, NJ: Erlbaum.
- Schneider-Rosen, K., Braunwald, K., Carlson, V., & Cichetti, D. (1985). Current perspectives in attachment theory: illustration from the study of maltreated infants. *Monogr Soc Res Child Development, 50*, 194-210.
- Schuengel, C., Bakermans-Kranenburg, Van IJzendoorn, M., Blom, M. (1999). Unresolved loss and Infant disorganisation. Links to frightening maternal behavior. In Solomon, J & George, C (Eds). *Attachment Disorganisation, 71-94*. New York: The Guildford press.
- Schuengell, C., van IJzendoorn, M., Bakermans-Kranenburg, M., & Blom, M. (1997). *Frightening, frightened, and dissociated behaviour, unresolved loss and infant disorganisation*. Paper presented at the biennial meeting of the Society for Research in Child Development, Washington, DC.
- Shaver, P. & Clark, C. (1994). The psychodynamics of adult attachment. In J.M. Masling & R. F. Bornstein (Eds.), *Empirical perspectives on object relations theories*, 105-156. Washignton, DC: American Psychological Association.
- Shaver, P. & Hazan, C. (1993). Adult romantic attachment: Theory and evidence. In D. Perlman & W. Jones (Eds.), *Advances in personnal relationships, 4*, 29-70. London, PA: Kingsley.
- Shaver, P. & Mikulinger, M. (2002) Dialogue on adult attachment: Diversity and Integration, *Attachment & Human Development, 4*, 243-257
- Shaver, P, & Milulincer, M. (2004). Attachment in the later years : A commentary. *Attachment & Human Development, 6*, 451-464.
- Siegel, D. (1999). *The developing mind. Toward a neurobiology of interpersonal experience*. The Guildford press, NY.
- Siegel, D. (2001). Toward an interpersonal neurobiology of the developing mind: Attachment relationships, "mindsight" and, neural integration. *Infant Mental Health Journal, 22*, 1-2, 67-94.
- Silver, D. , & Cohn, D. A. (1992). *Couple attachment interview*. Unpublished manuscript, University of California at Berkeley..

- Simpson, J. (1990). Influence of attachment styles on romantic relationships. *Journal of Personality and Social Psychology*, 59(5), 971-980.
- Simpson, J., Rholes, W. (1998). Attachment in Adulthood. In J. Simpson & W. Rholes (Eds.), *Attachment theory and close relationships*. New York. Guilford Press.
- Simpson, J., Rholes, W., & Nelligan, J. (1992). Support seeking and support giving within couples in an anxiety-provoking situation: The role of attachment styles. *Journal of Personality and Social Psychology*, 62, 434-446.
- Simpson, J. & Rholes, W. (2002). Fearful-avoidance, disorganization, and multiple working models: Some directions for future theory and research. *Attachment and Human Development*, 4(2), 223-229.
- Sims, B., Hans, S., & Cox, S. (1996). *Raising children in high-risk environments: Mothers' experience of stress and distress related to attachment security*. Poster presented at the biennial meeting of the International Conference on Infant Studies, Providence, RI.
- Soares, I., Santos, P., Martins, C., Jongenelen, I., Silva, A., Figueiredo, B., e tal. (1995). Organização comportamental da vinculação na situação estranha: Avaliação da estabilidade através do método de teste-reteste. In L. Almeida & I. Ribeiro (Org.), *Avaliação psicológica: Formas e contextos*. Braga. APPORT.
- Soares, I. (1996). *Representação da vinculação na idade adulta e na adolescência. Estudo intergeracional: mãe-filho(a)*. Braga: Centro de Estudos em Educação e Psicologia, Instituto de Educação e Psicologia, Universidade do Minho (2ª edição em 2000).
- Soares, I. (2002). *A vinculação vinculada*. Lição Síntese. Departamento de Psicologia, Instituto de Educação e Psicologia, Universidade do Minho (Unpublished manuscript.).
- Solomon, G. & George, C. (1999). The measurement of attachment security in infancy and childhood. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications*, 287-316. NY: The Guilford Press.
- Solomon, J & George, C. (1999). The caregiving system in mothers of infants: A comparison of divorcing and married mothers. *Attachment Development*, 1, 171-190.
- Solomon, J. & George, C. (1999). The place of disorganization in attachment theory: Linking classic observations with contemporary findings. In J. Solomon & C. George (Eds.), *Attachment disorganization*. 3-32. NY: The Guilford Press.

- Spangler, G. & Grossman, K. E. (1999). Individual and physiological correlates of attachment disorganization in infancy. In J. Solomon & C. George (Eds.), *Attachment disorganization*, 95-125. NY: The Guilford Press.
- Spieker, S. J., & Bensley, L. (1994). Roles of living arrangements and grandmother support in adolescent mothering and infant attachment. *Developmental Psychology*, *30*, 102–111.
- Sroufe, L, Waters, E. (1977) Attachment as an Organizational Construct. *Child Development*, *48*, 1184-1199.
- Sroufe, L. (1979). The coherence of individual development: Early care, attachment, and subsequent developmental issues. *American Psychologist*, *34*, 834-841.
- Sroufe, A. (1983). Infant-caregiver attachment patterns of adaptation in preschool: the roots of maladaptation and competence. In M. Perlmutter (Ed.), *Minnesota symposium in child psychology*. Hillsdale: Lawrence Erlbaum.
- Sroufe, A. (1985). Attachment classification from the perspective of infant-caregiver relationships and infant temperament. *Child Development*, *56*, 1-14.
- Sroufe, A. (1986). Bowlby's contribution to psychoanalytic theory and developmental psychology. *Journal of Child Psychology and Psychiatry*, *27*, 841-849.
- Sroufe, L. A. (1988). The role of infant-caregiver attachment in development. In J. Belsky & T. Nezworski (Eds), *Clinical implications of attachment*, 18-40. Hillsdale, NJ: Erlbaum.
- Sroufe, A. (1989). Relationships, self, and individual adaptation. In Sameroff & Emde (Eds.), *Relationship Disturbances in Early Childhood: A Developmental Approach*, 70-94. New York: Basic Books.
- Sroufe, A. (1990). An organizational perspective on the self. In D. Cicchetti & M. Beeghly (Eds.), *The self in transition: infancy to childhood*, 281-307. Chicago: University of Chicago Press.
- Sroufe, A. (1995). *Emotional Development: The Organization of Emotional Life in the Early Years*. New York: Cambridge University Press.
- Sroufe, LA., Duggal, S., Weinfield, N & Carlson, E (2000). Relationships, Development and Psychopathology. In: A. Sameroff, M. Lewis, & S. Miller (Eds.), *Handbook of Developmental Psychopathology*. Kluwer Academic/Plenum Publishers, NY.

- Sroufe, A., Bennet, C., Englund, M., Urban, J., & Schulman, S. (1993). The significance of gender boundaries in preadolescence: contemporary correlates and antecedents of boundary violation and maintenance. *Child Development, 64*, 455-466.
- Sroufe, A., Carlson, E & Shulman, S. (1993). Individuals in relationships: Development from infancy through adolescence. In D. Funder, R. Parke, C. Tomlinson-Keasey & K. Widaman (Eds.), *Studying lives through time : Personality and development*, 315-342. Washington, DC: APA.
- Sroufe, A., Carlson, E., Levy, A. & Egeland, B. (1999). Implications of attachment theory for developmental psychopathology. *Development and Psychopathology, 11*, 1, 1-14.
- Sroufe, A. & Fleeson, J. (1986). Attachment and the construction of relationships. In W. Hartup & Z. Rubin (Eds.), *Relationships and development*. Hillsdale: Erlbaum.
- Sroufe, L.A., Egeland, B., & Kreutzer, T. (1990). The fate of early experience following developmental change: longitudinal approaches to individual adaptation in childhood. *Child Development, 61*, 1363-1373.
- Sroufe, L., Egeland, B., Carlson, E., Collins, W. (2005). Placing Early Attachment Experiences in Developmental Context, 48-70, In Grossmann, K.E. & Grossmann, K. & Waters, E. (Eds.), *Attachment from Infancy to Adulthood, The Major Longitudinal Studies*, The Guilford Press, NY,.
- Sroufe, A., & Fleeson, J. (1988). Attachment as an organizational construct. *Child Development, 48*, 1184-1199.
- Stayton, D. Hogan, R. & Ainsworth, M. (1971). Infant obedience and, maternal behaviour: The origins of socialization reconsidered. *Child Development, 42*, 1057-1069.
- Steele, H., & Steele, M. (2005). Understanding and resolving emotional conflict: The London parent-child project. In K. E. Grossmann, K. Grossmann, & E. Waters (Eds.), *Attachment from infancy to adulthood: The major longitudinal studies*, 137-164. New York: Guilford.
- Stein, H., Jacobs, N., Ferguson, K., Allen, J., & Fonagy, P. (1998). What do adult attachment scales measure ? *Bulletin of Menninger Clinic, 62*, 33-82.
- Stein, H., Koontz, A., Fonagy, P., Allen, J., Fultz, J., Brethour, J. et al, (2002). Adult attachment: what are the underlying dimensions? *Psychology and Psychotherapy: Theory, research and Practice, 75*, 77-91.
- Stern, D. (1974). The goal of structure of mother and infant play. *Journal American Academy Child Psychiatry, 13*, 402-421.

- Stern, D (1985). *The interpersonal world of the infant*. NY: Basic Books.
- Stevenson-Hinde, J. (1990) Implications for Prevention. *Infant Mental Health Journal*, 11, 218-227.
- Stevenson-Hinde, J. (2005). The Interplay between Attachment, Temperament, and Maternal Style, In Grossmann, K.E. & Grossmann, K. & Waters, E. (Eds.), *Attachment from Infancy to Adulthood, The Major Longitudinal Studies*, 198-222. The Guilford Press, NY.
- Stevenson-Hinde, J., & Shouldice, A. (1995). Maternal interactions and self-reports related to attachment classifications at 4,5 years. *Child Development*, 66, 583-596.
- Suess, G. J., Grossman, K.E., & Sroufe, L.A. (1992). Effects of infant attachment to mother and father on quality of adaptation in preschool: from dyadic to individual organization of self. *International Journal of Behavioral Development*, 15, 43-65.
- Susman-Stillman, A., Kalkowske, M., & Egeland, B. (1996). Infant temperament and maternal sensitivity as predictors of attachment security. *Infant Behaviour Development*, 52, 857-865.
- Tarabulsy, Bernier, Provost, et al. (2005). Another look inside the Gap: ecological contributions to the transmission of attachment in a sample of adolescent mother-infant dyads. *Developmental Psychology*, 41 (1), 212-224.
- Target & Fonagy (1996). Playing with reality II: The development of psychic reality from a theoretical perspective. *International Journal of Psycho-Analysis*, 77, 459-479.
- Tereno, S., Soares, I., Martins, E., Sampaio, D., & Carlson, E. (2007). La théorie de l'attachement: son importance dans un contexte pédiatrique. *Devenir*, 19(2), 151-188.
- Tereno, S., Soares, I., Martins, C., Celani, M., & Sampaio, D. (2008). Attachment styles, memories of parental rearing, and therapeutic bond: A study with eating disordered patients, their parents and therapists. *European Journal of Eating Disorders*, 16, 49-58, DOI: 10.1002/erv.801
- Teti, D., Nakagawa, M., Das, R., & Wirth, O. (1991). Security of attachment between preschoolers and their mothers: Relations among social interaction, parenting stress, and mothers' sorts. *Developmental Psychology*, 27, 440-447.
- Thomas, J.M. (1998). Summary of the Practice Parameters for the Psychiatric Assessment of Infants and Toddlers (0-36 Months). *Child Adolescent Psychiatry*, 37, 127-132
- Thompson, R. (1999). Early attachment and later development. In Cassidy, J., & Shaver, P. (Eds.). *Handbook of attachment. Theory, Research and Clinical Applications*, 265-286. New York, London: The Guilford Press.

- Thompson, R. (2000). The legacy of early attachments. *Child Development, 71*, 145-152.
- Tulving, E. (1972). Episodic and semantic memory. In E. Tulving & W. Donaldson (Eds.), *Organisation of Memory*, 382-403. New York:Academic Press.
- Tulving, E. (1993). Varieties of consciousness and levels of awareness in memory. In A. Baddley & L. Weiskrantz (Eds.), *Attention, selection, awareness and control: A tribute to Donald Broadbent*, 283-299. London: Oxford University Press.
- Urban, J., Carlson, E., Egeland, B., & Sroufe, L. (1991). Patterns of individual adaptation across childhood. *Development and Psychopathology, 3*, 445-460.
- Van den Boom, D. (1994). The influence of temperament and mothering on attachment and exploration: An experimental manipulation of sensitive responsiveness among lower-class mothers with irritable infants. *Child Development, 65*, 1449-1469.
- Van Ijzendoorn, M. (1995). Adult attachment representations, parental responsiveness and infant attachment: A meta-analysis on the predictive validity of the Adult Attachment Interview. *Psychological Bulletin, 117*, 387-403.
- Van IJzendoorn, M. (1995). Intergenerational transmission of parenting: A review of studies in nonclinical populations. *Developmental Review, 12*, 76-99.
- Van Ijzendoorn, M. & Bakermans-Kranenburg, M. (1996). Attachment representations in mothers, fathers, adolescents, and clinical groups: A meta-analytic search for normative data. *Journal of Consulting and Clinical Psychology, 64*, 8-21.
- Van Ijzendoorn, M. & Bakermans-Kranenburg, M. (1997). Intergenerational transmission of attachment: A move to the contextual level. In L. Atkinson, K.J. Zucker, & et al. (Eds.), *Attachment and psychopathology*, 135-170. New York: The Guilford Press.
- Van IJzendoorn, M. & DeWolff, M. (1997). In search of the absent father: Meta-analyses on infant-father attachment: A rejoinder of our discussions. *Child Development, 68*, 604-609.
- Van Ijzendoorn, M., Goldberg, S., Kronenberg, P., & Frenkel, O. (1992). The relative effects of maternal and child problems on the quality of attachment: a meta-analysis of attachment in clinical samples. *Child Development, 63*, 840-858.
- Van Ijzendoorn, M. & Kroonenberg, P. (1988). Cross-cultural patterns of attachment: A meta-analysis of the strange situation. *Child Development, 59*, 147-156.

- Van IJzendoorn, M., Kranenburg, M., Zwart-Woudstra, A., van Busschbach, A., & Lambermon, M. (1991). Parental attachment and children's socio-emotional development: some findings on the validity of the adult attachment interview in the Netherlands. *International-journal-of-behavioral-development, 14* (4), 375-394.
- Van IJzendoorn, M. & Sagi, A. (1999). Cross-cultural patterns of attachment: universal and contextual dimension. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications*, 713-734. NY: The Guilford Press.
- van IJzendoorn, M., Schuengel, C. & Bakermans-Kranenburg, J (1999). Disorganized attachment in early childhood: Meta analysis of precursors, concomitants and sequelae. *Development and Psychopathology, 11*, 225-249
- Vaughn, B. & Waters, E. (1990). Attachment Behaviour at home and in the laboratory: Q-sort observations and strange situation classifications of one-year-olds. *Child Development, 61*, 1965-1973.
- Vaughn, B. E., & Bost, K. K. (1999). Attachment and temperament: Redundant, independent, or interacting influences on interpersonal adaptation and personality development? In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications*, 198-225. New York: Guilford.
- Ward, M. & Carlson, E. (1995). Associations among adult attachment representation, maternal sensitivity and infant-mother attachment in a sample of adolescents mothers. *Child Development, 66*, 69-79.
- Waters, E. (1995). The attachment Q-set. In E. Waters, B. Vaughn, G. Posada, K. Kondo-Ikemura (Eds.), *Caregiving, cultural, and cognitive perspectives on secure-base behavior and working models. New growing points of attachment theory and research*. Monographs of the Society for Research in Child Development, serial n° 244, vol. 60, n° 2-3, 247-254.
- Waters, E. & Cummings, E.M. (2000). A secure base from which to explore close relationships. *Child development, 71*, 164-172.
- Waters, E., Crowell, J., Elliott, M., Corcoran, D., & Treboux, D. (2002). Bowlby's secure base theory and the social/personality psychology of attachment styles: work(s) in progress. *Attachment and Human Development, 4*(2), 230-242.
- Waters, E. & Deane, K. (1985). Defining and assessing individual differences in attachment relationships: Q-methodology and the organization of behaviour in infancy and early childhood.

- In I. Bretherton & E. Waters (Eds.). *Growing points on attachment theory and research*. Monographs of the Society for Research in Child Development, 50 (Serial N° 209).
- Watzlawick, P. (1978). *The language of change. Elements of Therapeutic Communication*. New York: Basic Books.
- Way, N., & Leadbeater, B. J. (1999). Pathways toward educational achievement among African American and Puerto Rican adolescent mothers: Reexamining the role of social support from families. *Development and Psychopathology, 11*, 349–364.
- Weinfield, N., Ogawa, J., & Sroufe, L. (1997). Early attachment as a pathway to adolescence peer competence. *Journal of Research on Adolescence, 7*, 241-265.
- Weinfield, N., Sroufe, A., Egeland, B., & Carlson, E. (1999). The nature of individual differences in infant-caregiver attachment. In J.Cassidy & P.Shaver (Eds.), *Handbook of attachment. Theory, Research and Clinical Applications*, 68-88. New York, London: The Guilford Press.
- West, M., Sheldon, A & Reiffer, L. (1987). An approach to the delineation of adult attachment: scale development and reliability. *Journal of Nervous and mental disease, 175*, 738-741.
- West, M. & Sheldon-Keller, A. (1988). The classification of pathological attachment patterns in adults. *Journal of Personality Disorders, 2*, 153-160.
- West, M., Sheldon, A., Reiffer, L. (1989). Attachment theory and brief psychotherapy: applying current research to clinical interventions. *Canadian Journal of Psychiatry, 34*, 369-375
- West, M. & Sheldon-Keller, A. (1992). The assessment of dimensions relevant to adult reciprocal attachment. *Canadian Journal of Psychiatry, 37*, 600-606.
- West, M. L. & Sheldon-Keller, A. E. (1994). *Patterns of relating - an adult attachment perspective*. New York: Guilford Press.
- Whitman, T. L., Borkowski, J. G., Keogh, D. A., & Weed, K. (2001). Interwoven lives: Adolescent mothers and their children, *Research Monographs in Adolescence*. Mahwah, NJ: Erlbaum.
- Zeanah, C. H., Benoit, D., Barton, M., Regan, C., Hirshberg, L. M., & Lipsitt, L. M. (1993). Representations of attachment in mothers and their one-year old infants. *Journal of the American Academy of Child and Adolescent Psychiatry, 32*, 278–286.