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# 14. A relational perspective on attachment


## Abstract

Individual differences in the antecedents of attachment are conceptualized from the perspective of a relational dynamic model of development. Relationships are living systems that have unique semi-stable features (frames), are organized and changed over time by a dynamic communication process (co-regulation), and are emergent from (but not merely the summation of) the co-actions of the participants. From a relational perspective, attachment is hypothesized as a set of communication processes for maintaining frames and making transitions between frames, specifically, frames related to proximity and separation. Antecedents of attachment are hypothesized to occur in the dyad's own history of communication regarding frame maintenance and frame transitions during the first year of life.


## Introduction

The problem of the developmental origins of attachment security has not been satisfactorily resolved. This is particularly surprising since the quality of attachment, measured at one year, is relatively stable and is a significant predictor of a wide range of later socioemotional processes. In this paper, I take a relational perspective on the development of attachment in which attachment is one set of communication frames among others in a parent-infant relationship. I explore the ways in which attachment issues (proximity and separation) may be related to other aspects of the dyad, including play and guidance. The model yields an entirely new way of studying parent-infant relationships in general, and attachment in particular. I offer only a theoretical analysis based on my relational approach to development (Fogel, 1993). I have no data to support my predictions and suggestions, the ultimate success of which will rest on future research using the relational model.

Attachment, as conceptualized by Bowlby and his followers (Ainsworth, Blehar, Waters & Wall, 1978; Bowlby, 1969; Bretherton, 1985) refers to that aspect of interpersonal relationships characterized by mutual proximity seeking, especially during periods of stress. The Ainsworth Strange Situation Test (ASST) was designed to probe the infant's response to a series of increasingly stressful separations and reunions (Ainsworth et al., 1978). Research on the origins of individual differences in attachment has centered on measures of separation and proximity maintenance, such as the parent's sensitivity to infant cries and willingness to engage in close physical contact with their infants early in the first year (Ainsworth, Bell & Stayton, 1971).

It is clear from Bowlby's original writings that he meant attachment to be a bi-directional, systemic construct. The hallmark of mature attachment is the

establishment of a control system that is mutually regulated as a goal-corrected partnership. Individual differences in attachment security are thought to be the result of bi-directional contributions from both the infant and the parent.

Unfortunately, no existing research on attachment and its antecedents has followed the systemic world-view of Bowlby's bi-directional approach (see Van den Boom & Hoeksma, this volume). Some investigators refer to bi-directionality only with respect to the statistical interaction of variables measured independently from parent and infant. I refer to this as an *interactional* perspective (see Table 1). As an example of an interactional perspective, Grossman et al. (1985), found relationships between attachment security and earlier maternal tenderness, attentiveness and prompt soothing of infant distress, moderate tempo of speech, and expressions of pleasure. Indices of infant behavior in the first year also correlate directly with later attachment security and statistically interact with maternal measures. Such infant behavior includes temperamental withdrawal (Thompson, Connell & Bridges, 1988), lower levels of sociability (Lewis & Feiring, 1989) and negative emotionality (Vaughn et al., 1992).

Another view looks at bi-directionality as part of the process of everyday communication between parent and infant. In this perspective, sequentially contingent probabilities of parent and infant responding to each other can be used as predictors of attachment security. I refer to this as a *transactional* perspective (see Table 1). One example is the negative cycle of maternal nonresponsiveness and infant distress found by Belsky, Rovine and Taylor (1984) to be antecedents of later attachment insecurity. Isabella (Isabella & Belksy, 1991; Isabella, Belsky & von Eye, 1989) found antecedents of secure attachment in reciprocal and mutually rewarding social interactions.

The interactional and transactional versions of bi-directionality limit our ability to understand the origins of individual differences in attachment. First, this is because variables are taken out of the context of their occurrence and their meaning for the relationship history of the dyad is lost. Second, such measures rely on group-based correlational statistics. Third, interactional and transactional variables explain only a portion of the variance in attachment security. Effect sizes in studies of attachment antecedents range between zero and 25 percent of the variance (Goldsmith & Alansky, 1987; Isabella, 1993; Lamb, Thompson, Gardner, Charnov & Estes, 1984; Rosen & Rothbaum, 1993).

One reason for the relatively low effect sizes in bi-directional research is that these variables are often mediated by family and ecological factors (see Thompson, this volume). Risk for attachment problems increases when maternal lack of responsiveness or infant fussiness is compounded by lack of social support networks, poverty, or familial history of psychiatric disorders (Allen, Affleck, McGrade, & McQueeney, 1984; Brooks-Gunn & Furstenberg, 1986; Crockenberg, 1981; Sameroff & Seifer, 1983; Singer et al., 1985). Another possibility is that relationships may spontaneously become self-righting when one considers them as dynamic developing systems, rather than as static variables or as traits fixed by the measurement process (Sameroff & Emde, 1989; Sroufe, 1989).

These findings suggest that we need a model of the parent-infant relationship that preserves its history over time as a dynamically changing relationship system in the context of the ecology, community, and culture. Such a model requires a methodology that preserves the individual dyad as the unit of analysis (see Hoeksma, Van den Boom, Koomen & Koops, this volume) and an approach that focuses on the relationship as a historically intact and transformational communication system.

In the following sections of this paper, I will suggest that a tabulation of frequencies and durations, contingencies and probabilities, averaged over the group, will never reflect the dynamics of the parent-infant relationship. Relationships, I will argue, are dynamic systems that are not reducible to the sum of their contributing individual acts. In order to understand the antecedents of attachment security, we must move from simple interactional and transactional models of bi-directionality toward a dynamic relational model of the parent-infant dyad. Later in this chapter, I provide examples of the kinds of data required by a relational model. Whether this model will eventually lead to larger effect sizes is a matter of empirical testing.

## A Relational Model

A relational perspective on attachment is based on a view of the parent-infant relationship as a dynamic and continuously evolving system of communication, a system that generates meaning, purpose and emotion. This perspective entails the conceptualization of relational measures and also preserves the dyad as the unit of analysis through time. In many of its features, the relational perspective is similar to Bowlby's (1969) original model of the attachment 'control system', an idea that was based in part on cybernetic systems thinking.

According to Bowlby, attachment is a relational system designed to maintain physiological homeostasis. Under conditions of danger or threat, the attachment system is activated in such a way as to suddenly exclude all other domains of a relationship. When threatened, the mother and infant seek proximity while other activities such as play and guidance are temporarily suspended. When the conditions of threat are relatively low, attachment, play and guidance operate in a more interdependent manner. The infant may explore at some distance from the mother, returning to her occasionally as a secure base or to receive some form of guidance.

One cannot understand the development of the relationship without considering all of its domains, their mutuality, and their changing co-activations. In this perspective, under conditions of threat or stress, the relationship limits its degrees of freedom to the maintenance for proximity at the expense of other processes and functions. As stress decreases, degrees of freedom open up in the relationship resulting in increasing complexity.

Bowlby's conception of attachment as a quality of a specific relationship rather than of individuals is supported by evidence showing that infants can form different types of attachments with different individuals. Mothers and fathers form unique attachments to infants and make unique contributions to their development, and infants can form independent attachment relationships with profes-

sional caregivers (Cox, Own, Henderson & Margand, 1992; Easterbrooks & Goldberg, 1984; Goossens & van IJzendoorn, 1990; Oppenheim, Sagi & Lamb, 1988; Schaffer & Emerson, 1964; Volling & Belsky, 1992).

Research also suggests that attachment itself is a developmental relational process rather than a fixed trait (see Koops, Hoeksma & Van den Boom, this volume). Egeland & Farber (1984), for example, found that between 12 and 18 months, insecure attachment changed to secure attachment in cases where there was a continuing growth of maternal competence within the relationship. The opposite pattern, changing from secure to insecure, occurred in cases where an initially responsive mother becomes increasingly unavailable or hostile to the infant. Interventions - beginning at 6 months of age and lasting 3 months - designed to enhance maternal responsiveness and attentiveness in a sample of irritable infants were successful in increasing the number of securely attached infants in the intervention compared to control dyads (Van den Boom, 1994). The quality of attachment, therefore, seems dynamically open to change as a function of ecological and dyadic circumstances.

Although a relational perspective has not been applied to the study of individual differences in attachment, I illustrate how this might be done using methods and results from my own longitudinal observations of mother-infant relationships during the first year of life. Using this approach, existing videotaped data of parent-infant interactions can be re-analyzed using a relational, compared to an interactional or a transactional perspective.

**Co-regulation and communication**

The starting point for any theory of relationship dynamics and development is a conceptualization of the communication process. Both the interactional and transactional approaches, described earlier, are based on a *discrete state* model of communication. In this model, messages are thought to be 'inside' the participants, who are assumed to be in only one state at a time, and both cannot be simultaneously transmitting messages (Shannon, 1963; von Neumann, 1958). In this model, individuals are thought to emit discrete signals to which partners can respond in discrete ways. Conceived in this manner, relationships are nothing more than the statistical summation of these discrete signals and responses.

During most forms of live communication, however, both partners are continuously active and continuously engaged in the process of communication. While one person is speaking, for example, the other is changing their verbal and non-verbal action in ways that communicate their level of attention, agreement, and emotional engagement. Under such conditions, it becomes conceptually and methodologically difficult to decide who is sending and who is receiving. Furthermore, as people communicate, their ideas and emotions change so that it is not simply a matter of expressing but of discovering how one feels and creating novel ways to communicate about what one already knows and what one is discovering through the communication process.

*Co-regulation* is a communication process characterized by 'a continuous unfolding of individual action that is susceptible to being continuously modified

by the continuously changing actions of the partner' (Fogel, 1993, p. 29). Communication is co-regulated if partners are continuously open to mutual modification and if the resulting process creates new information, information that could not have been available to the participants prior to their joint engagement. *Creativity is the defining characteristic of a co-regulating communication system.* From a dynamic systems perspective, during the process of self-organization, elements of a system mutually and continuously modify each other in such a way that new forms of organization and new patterns of action emerge spontaneously (Fogel & Thelen, 1987; Thelen & Smith, 1994).

Co-regulation suggests that communication is a self-organizing system, one that generates the sources of its own transformation. A communication process that is not co-regulated does not change: it is characterized by highly rigid patterns of ritualistic co-action. Two individuals engaged in ritualistic and highly repetitive encounters, even over a long period of time, do not share a relationship. An example is a perfunctory greeting exchanged between neighbors who never otherwise talk and whose communication therefore never becomes a relationship. Interactional and transactional models cast relationships in this kind of rigid mold, as if a maternal touch or infant cry can be counted the same each time they occur, ignoring the subtle modulations of the action and their changing mutual dynamics over time (see Table 1).

Table 1. Measurement of communication processes

| Approach | Unit of Analysis | Example |
|---|---|---|
| Interactional | Individual acts | Parental sensitive responsiveness |
| Transactional | Sequences of individual acts | Positive or negative reciprocity |
| Relational | Communication | Co-regulation and frame transitions |

## Co-regulation, Frames and Development

A self-organizing system creates dynamically stable attractor configurations. Although these attractors are created and maintained by the cooperative dynamics of the system, they can be persistent and highly regular patterns to which the system's activities return time and again. In the theory of relational dynamics described here, stable attractors in relationships systems are called *frames*. A frame is a co-regulated and therefore consensual pattern of communicative action (Fogel, 1993). The concept of frame as applied to communication systems was used first by Bateson (1955), to describe the ways in which individuals entered into mutual agreement regarding the meaning of a pattern of action. According to Goffman (1974), frames are context-specific patterns within social systems.

Fogel (1977) found that mother-infant relationships in the first half year can be described as a series of sequential and overlapping discourse frames. Face-to-face play frames, for example, alternate with object-focused play frames in a sequential fashion. Kaye (1982) described the mother-infant relationship as com-

posed of multiple types of frames that he labelled nurturant, protective, instrumental, feedback, modeling, discourse, and memory. Some of these frames are available to the dyad at birth, and others emerge developmentally, constituting novel grounds for mutual coordination and sharing of experience.

The relational system is best observed during live communication processes and those communication processes are *more than the sum of their parts*, more than the additive or statistically interactive product of the two separate participants, their actions, and their representations. Every time two people in a relationship communicate, something changes, something is alive, something emerges, something is created that was not there before and not contained in any stored representation. The relational approach does not reduce attachment to communication, nor does it deny that individuals have emotions and representations. Rather, observed behavior is not merely the direct expression of emotions and representations. Behavior is in part emergent and creative, not entirely predictable from prior emotions and representations, which are themselves in part created in the co-regulation of joint action. In the next sections, I apply a dynamic relational model to the ASST and to the research on attachment and its antecedents.

## A relational analysis of the ASST

The ASST was designed to gradually increase stress on the mother-infant relationship in order to heighten the probability of observing attachment-related actions (Ainsworth et al., 1978). From the traditional point of view, the dyad's task in the ASST is to manage the level of stress during reunions with the mother following separation and exposure to strangers.

From a relational perspective, the ASST can be thought of as a series of experimentally manipulated relationship frames. Thus, the changes between episodes (frames) can be understood as a sequence of frame transitions. A frame transition, in this case, is the dyadic negotiation of leaving one frame and entering another. The reunion episode in particular can be viewed as the way in which a dyad co-regulates their transition to a frame of mutual availability following a frame or frames characterized by relative lack of availability. Thus, ease of transition between frames is related not only to each participant's emotional availability and response to stress, but also *to the existence of a set of stable communicative patterns* for reunion following stressful separation.

A securely attached dyad, therefore, is one in which both infant and mother have a readily available set of communication tools and practices that serve to mediate stressful frame transitions. Such tools and practices are exactly those observed in research using the ASST: initiation and maintenance of mutual gaze, a pattern of mutual affective communication involving continuously co-regulated physical contact and holding, and the ability to create together the co-regulated emergence of intense joy or distress without restriction. Secure patterns of communication following reunion also involve the free transitions between frames for mutual proximity and frames for infant exploration at a distance from the mother.

A relational model also can be applied to explain insecure-resistant and insecure-

avoidant patterns in the ASST. These patterns of attachment may reflect a variety of poorly articulated processes for *communicating changes of frames* and relative failures at *co-regulation within frames*. Insecure-resistant attachment, for example, may be characterized by a relatively close, co-regulated parent-infant relationship, but the couple lacks the ability to cope with transitions between frames, particularly under stressful or unusual conditions. Consider the analogy of a jealous spouse who has difficulty with separations. When the partner returns home after an absence, the jealous spouse is likely at first to show hostility or rejection, fearing the worst. In a traditional view, one could explain this as a problem with the jealous partner's internal working models of the relationship. A complementary explanation, that does not necessarily deny the partner's jealous feelings and images, is that the couple has not worked out ways to communicate about separation. The jealous partner's fears are not co-regulated into the communication system (perhaps not fully articulated, perhaps not fully accepted). The couple does not have the communication tools for talking about the stress of separation and reunion. What emerges is a pattern of communication characterized by mutual avoidance, resistance to accepting mutual comfort, or failures to read the signals of the partner's distress. In partial support of the relational origins of these patterns, some forms of marital therapy address these problems by reframing the jealousy as love and by coaching couples more co-regulated forms of communication (Minuchin & Fishman, 1981).

Insecure-avoidant attachment, on the other hand, is more likely to be characterized by a relatively poor quality of co-regulation within frames for mutual proximity (see Table 2 for differences in the quality of co-regulation). Because of the poor quality of co-regulation, the dyad may be unable to find the means to communicate mutual support and to negotiate satisfactory proximity maintenance. Furthermore, when they are required to change frames in the ASST, they may do so relatively quickly and without seeming to notice or care. Rapid and unmarked frame changes are associated with superficial and unsatisfying communication within frames. Couples who are relatively less emotionally involved have little trouble separating and reunions are matter-of-fact events.

## A relational analysis of the antecedents of attachment security

The importance of a relational approach becomes more clear when we consider explanations for the antecedents of individual differences in attachment security. If we view the ASST as a method for assessing differences in the dyad's ability to communicate about frame transitions during a period of stress, then the antecedents of attachment will be found in the dyad's history of co-regulation and frame transitions. Each relationship is characterized by a history of communication practices for frame making, frame maintaining, and frame transitions. Frames undergo developmental processes including formation, maintenance, transformation, and dissolution (Fogel, 1993).
Although the concept of a relationship used here is theoretically broad, it can be translated into specific research models that have two essential features: (1) the

Table 2. Variations in the quality of co-regulation, based on research in progress. More detailed descriptions of each category are available from the author. The codes are reliable and validity studies are underway.

| Type of Regulation | Description |
|---|---|
| Symmetrical | Partners are continuously open to mutual modification of action, and the resulting process creates new information (or meaning) that could not have been available to the participants prior to their joint engagement. Creativity is assessed by comparing the current communication to the historically prior communication in similar frames. Co-regulation requires simultaneous co-action and can be either verbal or non-verbal. Joint action is convergent. |
| Unilateral | One partner's action is regulated by the other, and that partner may be creative in attempting to communicate, but there is no mutual creation of information. |
| Coercive | Partners intrude upon or interrupt the flow of dyadic activity. Information may be created, but it is in the form of new ways to avoid communication or new ways to disrupt it. Joint action is divergent. |
| Non-regulation | This is simply a lack of communication. Partners are not engaged in any observable mutual activity. |

use of dyadic or relational coding systems to describe the quality of the communication process within frames (e.g., variations of co-regulation), and (2) preservation of the history of the relationship by the examination of transitions between communication frames and the emergence of new frames from existing frames.

A small number of research studies have investigated frames and transitions during the first year of life, processes that, according to a relational model, may be related to individual differences in attachment at the end of the first year. According to Sander (1977), for example, it is important to 'consider the infant and caretaking environment together as a biological system and to focus on the aspects of the regulation of exchange in the system as a way of approaching the problem of mutual adaptation' (Sander, 1977, p. 152). Sander found that frame transitions are a common occurrence during the first year of life. In the first few months, dyads must negotiate the transitions between frames such as feeding, comforting, and sleeping. At first, these transitions are not easily managed. Infants and parents find it difficult to recognize the onset of sleep or hunger and to find ways to communicate with each other about this. Early infant crying and parental stress, including mild post-partum depression, is likely to be associated with the newness of the relationship. Not only does the couple need to go through the normal 'getting to know you' phase of any new relationship, but they have to manage this under the added pressures of the infant's intense and unmodulated needs (Sander, 1977; Thoman et al., 1979). Sander observed interdyad differ-

ences in the ability to negotiate these early frame transitions.

The ability of a couple to negotiate such frame transitions cannot be encompassed by Ainsworth's concept of parental sensitivity. According to the co-regulation model, for parents to appear sensitive they must be in the company of infants whose action is flexible enough to enter into a co-regulated communication with the parents. That is, sensitivity is partly a quality of the parent, but also partly an emergent result of a communication process. Some infants are better at allowing their parents to appear sensitive.

As the infant develops the ability to focus visual attention during the second month, the dyad must negotiate ways to initiate, maintain, and to terminate face-to-face play. At first, because of intense 'obligatory attention' it is difficult for infants to break gaze contact with the parent and communicative strategies must be devised to ease this transition. Once the face-to-face play period has been established, infant's attention begins to get drawn to objects. Over the next few months, the dyad must negotiate a balance between face-to-face and object play and ways to smoothly achieve transitions between them.

Lyra and Rossetti-Ferreira (1994) trace the negotiated transactions between mothers and infants with objects during this period. Objects are introduced into the existing frame of mother-infant face-to-face play. While engaging in mutual gaze and positive facial and vocal expressions, mothers introduce objects as highlighted figures against the relational background of face-to-face play. It is in relation to the shared history of face-to-face play that the object becomes incorporated into the expanding spiral of relational dialogue. Transitions to an object play frame work to the extent that they do not disrupt existing relational frames and that they provide a way to elaborate and continue the relationship. Mothers follow the infant's gaze as it shifts from her face to objects, by introducing objects to the infant in the space between mother and infant, and by highlighting objects for the infant using movement and sound. Once object play becomes the main focus of the mother-infant interaction, beginning around the age of 4 months (Kaye & Fogel, 1980), the face-to-face frame does not disappear but rather becomes 'abbreviated' (Lyra & Rossetti-Ferreira, 1994). While playing with an object the infant may pause for a brief look at mother, as if to include her in the play by referring, in an abbreviated way (the gaze at her face), to the earlier face-to-face frame.

Reimers and Fogel (1992) and Gray (1978) examined the development of interdyad differences in this developmental transition between face-to-face and object play. In these studies, a high level of sustained attention to objects after 4 months was related to relatively easy transitions between object play and more socially oriented face-to-face play. Infants with lower levels of sustained attention participated in dyads in which object play was poorly co-regulated, and it was relatively difficult to end the face-to-face frame with the mother and make a transition into exploratory play. A more detailed description of these data are in Fogel (1993). Similar findings are reported by Pecheux, Findji and Ruel (1992).

The antecedents of individual differences in attachment security can be hypothesized to relate to earlier instances of co-

regulation within frames and transitions between frames. Specifically, securely attached dyads may have found ways to use existing communication frames as a basis from which to build transitional bridges into new frames, such as from proximity to exploration at a distance. *It is the existing communication frame, not the mother, that is the secure base of a relationship.* Reasoning by analogy from the studies of face-to-face play reported above, secure attachment is the result of a relationship in which new patterns of frame organization arise naturally from existing frames during the first year, such as an object introduced into the social play of the dyad. Then, gradually, communication about the new frame (the object) is elaborated in the secure context of the existing (face-to-face) frame. The existing frame slowly becomes abbreviated and eventually becomes the background of the newly emergent frame (brief glances and smiles occur during social object play) (Fogel & Branco, in press; Lyra & Rossetti-Ferreira, 1994). Later, dyads can make smooth transitions between the co-regulated frames, engaging in one form of communication (social) or the other (exploratory play) as the need arises.

Insecure attachment patterns are likely to have different relational antecedents. Insecure-resistant patterns are likely to arise in dyads that lack the communication tools for making smooth transitions between frames and for reminding each other that the earlier history of the relationship can be a secure base for the emergence of new or unexpected patterns of stress or novelty. Insecure-resistant attachment, in this model, rests on a history of co-regulated and satisfying parent-infant communication within frames, but the couple lacks the experience of or the ability to cope with transitions between frames, particularly under stressful or unusual conditions.

Insecure-avoidant attachment may come from poorly co-regulated frames, characterized by periods of coercive or non-regulated engagement or a lack of spontaneous creativity and emergent information. The parent and infant may have never elaborated their relationship sufficiently in any one frame to feel deeply engaged, connected, or committed. Lacking a model for how to elaborate frames, the dyad may develop a history of making rapid and frequent transitions between frames on a superficial level. Frame breaking may have occurred frequently and without arising from a secure base of co-regulated action between them. Thus, the dyad seems to move uneventfully between different stressful frames, but without apparent emotion or involvement.

The above analysis of the antecedents of attachment has been done with respect to the existing tool for studying attachment, the ASST. The ASST is well respected for its ability to differentiate dyads and for its long term reliability and validity. Nevertheless, if one were to take a relational model seriously, one could conceptualize a large variety of possible tests of the viability of a relationship, all involving perturbations of frames and transitions between frames. Taking the relational model one step further, it is possible to imagine research models that are not based on prediction, outcome, and effect sizes. Case-study and qualitative-ethnographic approaches can yield rich insights about the developmental history of different kinds of relationships, the growth of meaning, the emergence of mu-

tual affection, and the collateral cognitive and social developments of individuals who participate in relationships (Fogel, 1993). Such approaches, though beyond the scope of this chapter, also have the potential for grounding the parent-infant dyad in the context of family and culture.

## Conclusions

This chapter proposes a novel interpretation of the ASST and suggests an alternative theoretical model for the antecedents of individual differences in attachment. Relational constructs, such as co-regulation and frame, can be applied to the development of the parent-infant relationship. Note that in the hypotheses regarding the relational origins of attachment security, it is not necessary to describe individual actions but rather patterns of relationship. In the dynamic relational model proposed here, the relationship is conceptualized as a uniquely constituted level of analysis that is more than the sum of its interacting participants. A new set of research tools, focusing on parent-infant discourse and communication, is required to test the relational model. It is beyond the scope of this chapter to elaborate these tools here, but I have described such approaches elsewhere (Fogel, 1993; Fogel & Branco, in press).

In addition to its implications for research, a relational model can also enhance our understanding of other issues in attachment theory. Since we know that attachment security can change, we need a better theoretical understanding of why and how interventions succeed or fail. Current conceptualizations in terms of maternal sensitivity do not recognize the importance of the communication system and the history of the relationship over time. Targeting frames and transitions may provide a tool for the analysis and design of early interventions. Finally, dyadic relationships fit into larger systems of relationships that include family, community, and culture. A relational approach is uniquely suited to conceptualize and study these embedded levels of relational phenomena (Fogel, 1993), and it has the potential of explaining the findings on cultural differences in attachment patterns.

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