

## EMPATHIC INTERACTIONS BETWEEN PARENTS AND CHILDREN: AN EXPLORATORY STUDY

Rafael Vera Cruz de Carvalho

Maria Lucia Seidl-de-Moura

*Institute of Psychology*

*University of the State of Rio de Janeiro, Brazil*

Address for correspondence:  
Rafael Vera Cruz de Carvalho  
Rua Venâncio Ribeiro, 325 fundos, casa 03  
Engenho de Dentro, Rio de Janeiro / RJ, Brazil  
E-mail: rafaelvcc01@yahoo.com.br

## **ABSTRACT**

Empathy has been broadly studied, but its development and evolution are rarely considered from an integrative perspective. In addition, few studies explore fathers' participation in child development, focusing mainly on mothers' role. This study attempted to contemplate these two gaps in the literature, considering an evolutionary and developmental view on empathy, as well as including fathers as participants. It aimed at investigating empathic interactions between parents and children and parental beliefs about empathy importance and development. Participants were 10 families, including father, mother and one 8-11 years-old child, who all lived together in the city of Rio de Janeiro. In order to assess the variables involved in family empathic interactions, a variety of methodologies were employed: an observation session of parents-child joint activities, an Inventory of Empathy for the parents, an Empathy Evaluation interview for the children, and an instrument focusing on parental beliefs on empathy. The results indicated relationships between empathy scores of parents and children in the instruments. In general, parents value empathic abilities and consider its development to be mainly influenced by their example and children's learning process, instead of by children's maturity and temperament characteristics. However, in the observation of the joint activities, difficulties in empathic communication were observed, leading to the hypothesis that there is no direct relationship between beliefs, individual abilities, and family practices. As an exploratory study, it is pointed out that more investigations on parent-child communication in daily activities are needed to advance knowledge in this field.

**Key words:** Family communication, Empathy, Evolutionary Developmental Psychology.

## INTRODUCTION

Because we are members of a social species, throughout human life cycle many abilities are developed in interaction with others. Interaction is fundamental for development since birth, and caretakers have an important role in this process. In regards to the development of empathy, which is a social ability referred to understanding others' perspective and feelings, followed by acting pro-socially, it is not different. Considering daily interactions between parents and their children, empathy development must somehow be influenced by parents' empathy. However, literature does not include much evidence of this influence. This study intends to assess some of the variables involved in this process, from an exploratory, qualitative, and cross-sectional approach.

Until the decade of 1990's, there have been many discussions on the definition of empathy. Recently there has been a consensus that it is important to consider a three-component model (Decety & Jackson, 2004; Knafo, Van Hulle, Zahn-Waxler, Robinson & Rhee, 2008; Preston & De Waal, 2002). Along this line, Falcone, (2003) points out that empathy is the ability to understand others' thoughts and feelings, and to express that understanding. She considers three components in the empathic process: cognitive, emotional, and behavioral. We also argue that it is important to consider a broader approach to empathy, including evidences of this process in other animals. This view is coherent to Evolutionary Developmental Psychology, which is the main theoretical approach adopted in this work. Evolutionary thought has been only recently emphasized in Psychology, being the publication of the book "The Adapted Mind" (Barkow, Cosmides & Tooby, 1992) considered a milestone in the 1990's. The main principle of Evolutionary Psychology is that all modern humans share psychological characteristics originated in our Environment of Evolutionary Adaptedness (EEA), which is the collection of selective pressures involved in the evolution of our lineage

over two million years. The argument is that our ancestors had spent much more time in hunter-gathering life conditions than in agricultural and industrial contexts, and that there had not been enough evolutionary time for the structure of our mind to change (Tooby & Cosmides, 1992). Since this publication, many authors have considered aspects in our mind's evolutionary history as the roots for the way we behave. Bjorklund and Pellegrini (2000) and Geary and Bjorklund (2000) proposed to consider the ontogenetic process in human evolutionary study. In this way, *Homo sapiens*'s behavior is analyzed at four levels of understanding: the micro-context in which it occurs, and in ontogenetic, phylogenetic and functional levels.

For micro-context, we consider Bronfenbrenner's (1977) social-ecological model. It represents the immediate situation in which behavior is expressed and all the conditions that are directly involved in this expression. For ontogenesis, the focus is on how behavior gets integrated to the individual's capacities during the developmental process. Phylogenesis refers to how this same behavior appears over evolution and whether this is a characteristic shared with other species or exclusive to modern *Homo sapiens*. Finally, the functional level relates to the adaptive aspect of the behavior and whether it is plausible to consider it as an adaptation, a by-product (a side effect of an adaptation), or an exaptation (characteristic that has presently been used for a purpose, but has evolved for a different function) (Gould & Vrba, 1982).

From this evolutionary view, empathy is considered to be shared in different forms with other animals, such as some primates and cetaceans. Preston and De Waal (2002) proposed a Perception-Action model (PAM) in an attempt to include all these manifestations in the empathic phenomenon. This model assumes a connection between behavior, physiology and functional neural-anatomy, and supports a view of empathy as a process (not

only as a response) based on neural circuitry that involves several manifestations, such as emotional contagion, sympathy, perspective taking, pro-social behavior, and true empathy (Preston & De Waal, 2002).

Because this psychological mechanism presents a neural-physiologic basis, the notion of empathy in the model of Preston and De Waal (2002) could be related to the idea of mental modules, defended by Tooby and Cosmides (1992), among other authors<sup>1</sup>. Preston and De Waal (2002) also agree with the founding principles of Evolutionary Psychology, as they both point out that experience refines and tunes the neural circuitry response functioning, and oppose to the dichotomy nature versus nurture. Through perception, the mechanism detects environmental elements that require or suggest an individual response. Then the nervous system answers automatically with empathy, when necessary. The authors propose that the neural circuitry oriented to response became the basis for the perception-action organization, mainly by social response demands (in social species with long-term of care, as our species).

According to Preston and De Waal (2002), for a subject (potential empathizer) to perceive or not the object state (potential empathy goal) it depends on five factors:

- The relation of interdependence between subject and object, which may be either temporary (when cooperating to achieve the same goal or when others' distress interfere in the subject's goal achieving), or more stable (considering a more frequent interaction, as between parents and their children);
- The interrelationship between subject and object and the consequent similar and shared mental representations, which can lead to an easier understanding of others' behaviors and a more appropriate response;
- Previous experiences;

---

<sup>1</sup> For a review on the discussions on mental modularity, see Seidl-de-Moura and Oliva (2009).

- Learning experiences;
- Object's emotional clues.

For these authors, perception-action mechanism works initially for (human or non-human) offspring to perceive and learn with his/her caretakers' expressions. Preston and De Waal (2002) argue that PAM would have evolved as basic responses to environment and demands of human social life, and latter became an exaptation, related to parental care, and allowing the offspring to develop in terms of the necessary regulation and emotional synchrony for empathic development. Emotional contagion would have its adaptive function in parental care, because if parents can perceive similar emotions, they tend to act properly, which increases offspring survival and consequently parental reproductive success. In addition, caring to reduce infant crying, for example, would avoid close predators' attention (see also Falk, 2004, with her "putting the baby down" hypothesis for the origin of motherese).

Thus, these authors' model assumes that PAM allows one to perceive environmental conditions and to incorporate them to an action plan, being an open mechanism, based on mirror neurons, which support the flexible relation between perception and action (Preston & De Waal, 2002). Mirror neurons are brain cells connected to motor cortex that are activated both during action execution and when we observe others' actions (Hauser & Wood, 2010; Iacoboni, 2009).

According to Iacoboni (2009), the majority of mirror neurons fires not only during the execution of the same observed actions (which is the characteristic of mirror neurons of strict congruence), but also during actions that are not the same as those observed, but which have the same goal or are logically related (which characterizes widely congruent neurons). This functioning pattern of most mirror neurons is coherent to Preston and De Waal's (2002)

PAM, because its flexibility in social interactions allows cooperation actions, beyond basic imitation (Iacoboni, 2009).

In 2008 De Waal makes modifications in his theoretical model, and names it “Russian doll model”, inserting the perception-action mechanism in its inner layer, which is the basis for outer and more complex layers, while self-other distinction increases throughout development. This model adopts the idea of the Russian dolls, one inside the other, as layers. In imitation, the outer layer is true imitation or emulation. In parallel, empathy has at the same level perspective-taking and targeted helping. The second internal layers are: in imitation, the coordination with the action of others and the presence of shared goals; in empathy, sympathetic concern and consolation. Finally, in the most interior level, there are motor mimicry (in imitation), and emotional contagion (in empathy). In the Russian doll model, the outer the layer, the more it uses prefrontal cortex and the more likely it is to be exapted beyond its original empathic function to kin, and to be applied to non kin people and even to individuals from other species.

Other species also present empathic characteristics, including interspecies’ interactions. De Waal (2005) reports the case of a female bonobo (Kuni) that tried to help a bird that fell into her cage. Kuni got the bird by the wings and made movements trying to help it flying. De Waal also exemplifies perspective-taking behavior in a female chimpanzee (Lolita) that has just had a baby. The baby was in her arms when the researcher tried to see it and pointed to Lolita’s belly. She, noticing that the baby was not face-to-face with the researcher, raised it, twisting it in a complex way, which De Waal (2005) describes as the same way a person taking one’s shirt off would do. By doing so, Lolita suspended the baby and De Waal could see its face. The author mentions some other situations he has experienced, where these animals have shown solidarity to others. Considering the tendency

to help co-specifics, he discusses that help behavior could move away from its evolutionary roots (possibly linked to helping relatives and to reciprocity/reciprocal altruism), being extended to strangers and even to other species (De Waal, 2005).

One can hypothesized that empathy social effects date back to our EEA, where there were probably strong selective pressures to altruistic reciprocal behaviors and empathy (Lopes, Magalhães & Brito, 2005). It is plausible to consider that empathy might have emerged because of several factors: our lineage family organization, the high necessity of offspring care, and the social structure linked to group cohesion necessity.

Focusing on ontogenesis, we have to consider how an immature baby of a biped primate develops throughout his/her life cycle and, specifically, how it develops empathic ability that could be applied to family communication. However, as Feshbach (1997) points out, it is not easy to transform the ontogeny of empathy into empirical data. The few studies that focus on that issue are inconsistent, have small samples, and/or are of difficult comparison because of the use of different measures.

Parental care practices are pointed out in literature as important influences to empathy development. Keller, Harwood and Carlson (2009) argue about the importance of a developing environment that was (phylogenetically) and is (ontogenetically) co-created, considering children's active participation in this process. Thus, we must consider that development happens in a social-cultural context. Many authors discuss the characteristics of this context.

Harkness and Super (1996), for instance, introduced the notion of "developmental niche", which consists of a dynamic system constituted by three sub-systems: physical and social environment, shared customs and practices of care, and the psychology of caretakers. The latter refers to caretakers' beliefs and expectations, which affect their care practices. For

example, a caretaker may not agree that certain ability could be developed by children. He/she may think that this ability could only appear when the child is born. Based on this nativist perspective, the caretaker may not emphasize activities for developing this ability. In contrast, another caretaker may believe that certain ability could only be developed if the child receives many stimuli, and may start giving this kind of support and rewarding behaviors that express this ability.

However, contrary to what one could expect, parental empathy is not directly related to children's empathy development. Few empirical studies showed strong correlations between them. Strayer and Roberts (2004) point out the need to consider a wide model of empathy transmission within family context. Children's age, maturity demands, parental control, parental warmth, and children's anger are some variables included in their model. Moreno, Klute and Robinson (2008) include learning as an important variable, because when the child feels empathically understood, he/she may use empathic reciprocity, validating whoever is validating him/her.

Hence, literature shows that is necessary to include parents' and children's characteristics, as well as environmental and situational variables in models for empathy development. Considering all these aspects involved in empathy evolution and development, this study was focused on some variables involved on empathic communication between parents and their children. It also adopted multi-methodological procedures, in order to partially fulfil mentioned gaps in the literature.

## **METHODS**

This is an exploratory study with observations of triads (father, mother and their child) in three situations, and the use of instruments to assess parents' and children's empathy, as well

as parental beliefs on empathy importance and development. Multiple techniques for data collection and analysis were used because we understand their importance in providing a wider perspective on the object. By approaching the object in different forms, we will probably obtain more points of view to compare, and the limitations of each methodology can be compensated by the other ones.

### *Participants*

Families were invited to participate and, the ones who agreed with the terms of the study, signed an informed consent form. Participants were 10 families, composed by father, mother, and their child between 8-11 years-old. Children were five boys and five girls, all living with both parents in the city of Rio de Janeiro. The mean age of fathers was 44.3 years-old (ranging from 33 to 63 years-old), the mothers' was 40.7 years-old (ranging from 28 to 51 years-old) and the children's was 9.6 years-old (ranging from 8 to 11 years old). Six families have parents with college degrees and parents from four families have either high school educational level or lower. All children were at school, in the appropriate grade to their age.

### *Instruments*

- For parental empathy assessment we used the Inventory of Empathy (IE) (Falcone *et al.*, 2008), which is a five points Likert scale (from "never" to "always") with 40 items, some of them reversed (3, 4, 5, 8, 9, 13, 16, 19, 22, 24, 26, 32, 35, 38 and 40). The instrument has four dimensions: perspective-taking (Cronbach  $\alpha = .85$ , with 12 items); interpersonal flexibility (Cronbach  $\alpha = .77$ , with nine items); altruism (Cronbach  $\alpha = .75$ , with nine items), and affective sensibility (Cronbach  $\alpha = .72$ , with nine items).
- For the assessment of children's empathy we used an adapted version of the interview created by Motta (2005), based on the comprehension of short scenes

from the movie “*Menino Maluquinho*” (Ziraldo & Ratton, 1994). This interview is semi-structured and focuses on the global comprehension of the scene, the cognitive comprehension of the target character, the affects related to the character, and on what the child would do if he / she was a friend of the target character hearing about the situation in which the character is involved. Attributed scores for cognitive and affective comprehension ranged from zero (the perceived emotion is the opposite to the one expressed by the character in the scene) to 3 (the perceived emotion is exactly the same as the one expressed by the character in the scene); For pro-social reported behavior the scores were: zero (absence of pro-social behavior, neutral behavior or intermediate steps of empathic process) or 1 (behavior displayed in the benefit of the other).

- For the assessment of empathic communication we designed three joint activities: free construction of objects with construction blocks, and two role-playing situations, one about the child arriving at home from school with low grades, and the other about the family discussing a sad experience lived by the child. All the activities were recorded in video, so that later it could be classified in terms of categories of empathic or not empathic verbalizations and gestures (both were based on Falcone, 1998). Verbal communication was evaluated considering three levels: 1 – depreciation of others’ perspectives and/or feelings; 2 – recognition (implicit or explicit) of others’ perspectives and/or feelings; 3 – recognition and elaboration of others’ perspectives and/or feelings. Non verbal items were evaluated in Likert scales: gaze (ranging from 1 – “frequent gaze deviation” to 4 – “high frequency of gaze”); body position (ranging from 1 – “back and closed body position” to 4 – “position of the body directed to the other”); and comforting

gestures (ranging from 1 - “no comforting gestures” to 3 – “complete comforting gestures”).

- For assessing parental beliefs on empathy importance and development we created scales to evaluate how important four empathic abilities taken from the literature (“look while listening”, “hear and accept the other’s point of view”, “talk about what was perceived” and “think about how one could have felt in a past situation”) are for them, and how much they agree the development of these abilities to be triggered by inner or outer sources (“my own example”, “explanations and advising”, “only by the child’s temperament”, “learning with others that are not parents” and “maturity in itself”). These questions were assessed on a five points Likert scale, varying from “no importance” to “extreme importance”, and from “totally disagree” to “totally agree”, respectively.

### *Procedures*

Data collection was conducted in one session at the participants’ home, starting with the reading of the consent form to the family. After agreeing with the terms of the study and signing the form, we started filming the joint activities (of approximately 10 minutes each). Then parents were asked to answer the instruments while the researcher observed and asked the child about the scenes in the empathy evaluation interview. The entire session lasted 40-50 minutes.

After data collection, the instruments were scored. The Parental beliefs’ instrument was qualitatively analyzed. Videos were coded considering the described categories of behavior. The filmed activities and the evaluation of children’s empathy were submitted to an independent coder for evaluating reliability (20% of the sample). Consistency between

researcher and jury was 100% for children's empathy instrument, 85% for the verbal evaluation, and 96% for non-verbal evaluation during activities.

## RESULTS

Data was analyzed both quantitative and qualitatively. We used Spearman correlation between ages of fathers, mothers and children, their scores on empathy assessed by the instruments, and their verbal and nonverbal communication scores in activities' categories to analyze their relationship. It was observed a relation between mothers' age and their score in verbal behavior ( $\rho = .69, p < .05$ ) and children's verbal communication score ( $\rho = .7, p < .05$ ). It is possible that with time mothers learn to verbally express themselves in a way that considers others' point of view, and this may be reflected in their children. It was found a positive correlation between mothers' scores in affective sensitivity factor of IE and children's age ( $\rho = .73, p < .05$ ). Thus, it seems mothers of older children tend to be more sensitive and interested in others' emotional states.

Fathers' age was positively correlated to mothers' verbal scores ( $\rho = .80, p < .01$ ) and their children's verbal scores ( $\rho = .69, p < .05$ ), and it was negatively correlated to children's general empathy score. Literature does not offer evidences that allow for the interpretation of this result. It is possible that older fathers have less ability to take their sons / daughters' perspective and this may be reflected in their empathic development.

Fathers' perspective-taking factor scores were significantly related to the same factor in mothers ( $\rho = .66, p < .05$ ), which can mean they are tuned in terms of identification and comprehension of others' points of view. Fathers' altruism factor score was negatively related to their verbal score ( $\rho = -.78, p < .01$ ), and the same happened with their global empathy score ( $\rho = -.67, p < .05$ ). This could possibly indicate that fathers are very altruistic and

empathic in general, however, they tend to express themselves less through emphatic verbal communication.

In addition, fathers' scores on perspective-taking were positively correlated to children's gaze ( $\rho = .69, p < .05$ ), and the latter was also correlated to mothers' perspective-taking scores ( $\rho = .65, p < .05$ ), which suggests that parental tune to others' perspective comprehension maybe an easier step for the children to keep their attention focused, with frequent gaze. This argument also seems to be supported by fathers' affective sensitivity factor score, which was related to children's gaze ( $\rho = .71, p < .05$ ). Fathers' affective sensitivity was related to fathers' gaze ( $\rho = .66, p < .05$ ). Fathers' gaze, possibly by influence of their example, presented high correlation to children's gaze ( $\rho = .76, p < .05$ ). Fathers' verbal scores were also related to their children's body position ( $\rho = .67, p < .05$ ), indicating a verbal-body communication between them.

In contrast, fathers' scores on affective sensitivity were negatively related to child behavioral empathic score ( $\rho = -.68, p < .05$ ), that is, these two aspects of empathy seems to present opposite directions in fathers and their children. Fathers' gaze was also negatively related to children's verbal scores ( $\rho = -.69, p < .05$ ) and to fathers' body position ( $\rho = .76, p < .05$ ). Although fathers show their empathy through looking more frequently and adopting a body position favorable to interaction, children produce less verbal empathic communication, which could be a possible inhibitory effect.

It was observed a negative correlation between mothers' comforting gestures and children's global empathy scores ( $\rho = -.75, p < .05$ ), as well as between these gestures and the affective component of children's empathy ( $\rho = -.66, p < .05$ ). It is possible that mothers have intuitively reacted with more empathy towards their children who have lower empathic scores.

Regarding the parental beliefs instrument, we will discuss both the items that had received higher average scores (four or higher) and lower average scores (between two and three). On average, parents have attributed high scores to all listed abilities in terms of their importance. They also strongly agree that the ability “looking while listening” can be developed by parental sources (“my own example”, “explanations and advising”). In addition, mothers highly agreed that the development of these abilities happens as a result of children’s “maturity in itself”. Fathers tend to highly agree with the development of “hearing and accepting the other’s point of view” through “explanations and advising” and the same tendency was observed in mothers’ answers. Mothers also include as a source of development for this ability “my own example”. Mothers in this sample seem to firmly believe that their children can develop the ability to “talk about what was perceived” through “explanations and advising”. They associated the option “my own example” as an explanation for the development of the ability to “think about how one could have felt in a past situation”. For fathers, in turn, this ability develops mainly by “explanations and advising”.

Mothers emphasize their low agreement to the development of the ability to “hear and accept the other’s point of view” by “the child’s temperament” and by “learning with others that are not parents”, while fathers agreed little with the influence of “learning with others that are not parents” in the abilities to “think about how one could have felt in a past situation” and to “talk about what was perceived”.

It seems that in general mothers and fathers agreed that all the empathic abilities are highly important, and that the development of these abilities can be mainly influenced by parental example. In the case of the behavior to “look while listening”, they also considered the influence of child maturity. In contrast, they tend to disagree about inner sources and learning from others.

Regarding children's empathy instrument, we observed a tendency to identifying cognitively and partially feeling the same emotion as the target-character, but children rarely mention pro-social actions assessed by the adapted instrument. One possible reason for this tendency could be because the instrument is based on self-report, and the children may have provided answers not directly referred to their own practices. We must also consider that the scenes used in this instrument tend to be comical at times, and this may have affected the seriousness with which they faced evaluation. Although all target-characters were boys, apparently this had no effect on girls' empathy, since the variable children's gender had no correlation to children's empathy scores.

The results of the comparison between the instruments' scores and scores in the filmed activities indicate that, although members of most of the families may potentially have abilities for empathic communication, in the proposed activities these abilities were not fully expressed, as expected. This demonstrates the complexity of interactional processes within family, and the need to comprehend other variables involved in the empathic communication process and its bases. In order to interpret these data, it is necessary to revisit Preston and De Waal's perspective (Preston & De Waal, 2002). The authors suggest that the factors influencing empathy are: interdependence and interrelation between empathizers and empathy targets, previous experiences, learning, and the target's emotional cues.

In regards to the interrelation between parents and their children in this study, we can consider it did not affect negatively the results because all participants lived together, which presupposes familiarity and easier understanding between them. In terms of interdependence, we can imagine that it had helped interactions in the first activity, which involved cooperation. However, the other two activities proposed involved conflict of interests and the need of support, which may had not elicited much joint help, as it may have happened in their

previous experiences dealing with these situations. In addition, we have to keep in mind that the research is mainly of interest to the researcher, not to participants. Hence, tasks perceived to have low relevance to participants may also have negatively affected parents and children's availability to empathize. We may wonder whether parents faced the proposed activities exclusively as a role-playing situation of their reality, hence distancing themselves from them.

Parents' distancing on performing the activities could explain the contrast between empathic scores in the instruments and low scores of empathy in the activities. However, it does not explain why some parents had lower IE scores and presented comforting gestures, which supposedly require some cognitive and affective processing, besides being, by definition, empathic behaviors. We have observed that two mothers and one father may have had difficulties to verbally express themselves, but not to do it through gestures. A global evaluation of these capacities is necessary in order to test this hypothesis.

Parents and children's empathy congruence did not occur all the time in this sample, although parents seem to highly value learning of empathic abilities through their own example. One variable that could have affected these data is the time participants spend together daily, which was not assessed in this research.

We must observe also that beliefs are not always translated into practices. Parents may have given emphasis to what they think is important, but they do not behave empathically, so they are not social models (as suggested by their scores on "my own example") and / or they do not explicitly advise their children about empathic ways to behave in social situations (based on their answers in the option "explanations and advising").

## DISCUSSION

This study is theoretically based on an evolutionary and developmental view. We consider that empathic abilities evolved in our species and in other species because of its adaptive value. However, at least in humans, they follow an ontogenetic process. In addition, empathy develops in interactions with others throughout the entire life cycle. Thus, it is not enough studying only empathy and its ontogenesis; it is also necessary to analyze how it is manifested in interactional processes. The goal in the present study was the attempt to fulfill gaps in the literature. We sought to investigate empathic communication between parents and their children, evaluating empathic abilities of triads, parental beliefs regarding the importance and the development of empathy, the relation between empathic abilities in parents and children as measured by instruments, empathic communication of the triads in specific situations, and the relation between empathic abilities of mothers, fathers and their children and the empathic communication observed in these situations. Operational difficulties found do not allow us to fully evaluate the investigated relations, but we believe this research showed important tendencies to be further explored in future studies.

Thus, we consider the exploratory role of this study was achieved, in terms of the empathic communication process between parents and their sons and daughters. Important reflections were raised and some theoretical and empirical questions were considered and discussed, with the benefit of a variety of methodological resources used (diverse instruments, observations, and video analyses), and of a consistent qualitative data analysis. Because the sample is composed by a relatively small number of families, we need to consider these results as not necessarily applicable to conclusions about population aspects.

It is clear that communicating with empathy within family does not depend only on believing in its importance and being empathic in terms of instrument scores. In addition,

believing in empathy importance does not necessarily lead to empathic behavior, at least not in the situations proposed in this work. There is a dynamic interplay between the interlocutor's empathic ability, his / her beliefs, his / her development level, and the characteristics of the situation. An additional conclusion – relevant in planning intervention programs – is that parents believe in the importance of empathy, as well as in their role in the development of their children's empathy. They attribute much more external than internal causality to this process, and they value their example and guidance. This tendency places them in the same position as authors who see us as “biologically cultural” beings. Accordingly, our propensities are updated in epigenetic processes in the ecological and social environments we live. During childhood and pre-adolescence parents are important interlocutors and elicitors of developmental conditions. Their beliefs can affect their practices and partially direct children's socialization process, in combination with inner factors and the influence of other contexts the child participates, such as school, interactions to other relatives, neighborhood etc.

Finally, we believe that the theoretical basis chosen, the adopted methodology, the results found, and the limitations considered may serve as basis for planning future studies that contribute to the literature in empathy development.

## REFERENCES

- Barkow, J. H., Cosmides, L., & Tooby, J. (1992). (eds.) *The adapted mind – evolutionary psychology and generation of culture*. New York: Oxford University Press.
- Bjorklund, D. F., & Pellegrini, A. D. (2000). Child development and evolutionary psychology. *Child Development, 71*(6), 1687-1708.
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*, 513-531.
- Decety, J., & Jackson, P. L. (2004). The functional architecture of human empathy. *Behavioral and Cognitive Neuroscience Reviews, 3*(2), 71-100.
- De Waal, F. (2005). *Eu, primata: por que somos como somos*. São Paulo: Companhia da Letras.
- Falcone, E. M. O. (1998). *A avaliação de um programa de treinamento da empatia com universitários*. Doctorate dissertation, Institute of Psychology, University of São Paulo, São Paulo.
- Falcone, E. (2003). Empatia. In: C. N. Abreu & M. Roso. (orgs.). *Psicoterapias construtivistas: novas fronteiras da prática clínica*. (pp. 275-287). Porto Alegre: Artmed.
- Falcone, E. M. O., Ferreira, M. C., Luz, R. C. M., Fernandes, C. S., Faria, C. A., D'Augustin, J. F. Sardinha, A., & Pinho, V. D. (2008). Inventário de empatia (I.E.): desenvolvimento e validação de uma medida brasileira. *Avaliação Psicológica, 7*(3), 321-334.
- Falk, D. (2004). Prelinguistic evolution in early hominins: whence motherese? *Behavioral and Brain Sciences, 27*, 491-541.
- Feshbach, N. D. (1997). Empathy: the formative years' implications for clinical practice. In: A. C. Bohart & L. S. Greenberg (orgs.). *Empathy reconsidered – new directions in psychotherapy*. (pp. 33-59). Washington, DC: APA.
- Geary, D. C., & Bjorklund, D. F. (2000). Evolutionary developmental psychology. *Child Development, 71*(1), 57-65.
- Gould, S. J., & Vrba, E. S. (1982). Exaptation – a missing term in the science of form. *Paleobiology, 8*(1), 4-15.

- Harkness, S., & Super, C. M. (1996). Introduction. In: S. Harkness & C. M. Super (eds.). *Parents' cultural beliefs systems: their origins, expressions, and consequences*. (pp.1-23). New York: The Guilford Press.
- Hauser, M., & Wood, J. (2010). Evolving the capacity to understand actions, intentions, and goals. *Annual Review of Psychology*, 61, 303-324.
- Iacoboni, M. (2009). Imitation, empathy, and mirror neurons. *Annual Review of Psychology*, 60, 653-670.
- Keller, H., Harwood, R., & Carlson, V. (2009). Culture and developmental pathways of relationship formation. In: S. Bekman & A. Aksu-Koç (eds.). *Perspectives on human development, family and culture*. (pp. 157-177). Cambridge, England: Cambridge University Press.
- Knafo, A., Zahn-Waxler, C., Van Hulle, C., Robinson, J. L., & Rhee, S. H. (2008). The developmental origins of a disposition toward empathy: genetic and environmental contributions. *Emotion*, 8(6), 737-752.
- Lopes, L. W. R., Magalhães, C. M. C., & Brito, R. C. S. (2005). Reflexões acerca da pró-sociabilidade humana. In: F. A. R. Pontes, C. M. C. Magalhães, R. C. S. Brito & W. L. B. Martin (orgs.). *Temas pertinentes à construção da psicologia contemporânea*. (pp. 97-116). Belém: EdUFPA.
- Moreno, A. J., Klute, M. M., & Robinson, J. L. (2008). Relational and individual resources as predictors of empathy in early childhood. *Social Development*, 17(3), 613-637.
- Motta, D. C. (2005). *Um estudo sobre a relação entre práticas educativas e o desenvolvimento da empatia em crianças em situação de abrigo e em contexto familiar*. Master thesis, Institute of Psychology, University of the State of Rio de Janeiro, Rio de Janeiro.
- Preston, S. D., & De Waal, F. B. M. (2002). Empathy: its ultimate and proximate bases. *Behavioral and Brain Sciences*, 25(1), 1-72.
- Seidl-de-Moura, M. L., & Oliva, A. D. (2009). Arquitetura da mente: uma visão evolucionista. In: M. E. Yamamoto & E. Otta (orgs.). *Psicologia evolucionista*. (pp. 42-53). Rio de Janeiro: Guanabara Coogan.
- Strayer, J., & Roberts, W. (2004). Children's anger, emotional expressiveness, and empathy: relations with parents' empathy, emotional expressiveness, and parenting practices. *Social Development*, 13(2), 229-254.

- Tooby, J., & Cosmides, L. (1992). The psychological foundations of culture. In: J. H. Barkow, L. Cosmides & J. Tooby. (eds.). *The adapted mind – evolutionary psychology and generation of culture*. (pp. 1-136). New York: Oxford University Press.
- Ziraldó (Producer) & Ratton, H. (Director). (1994). *Menino maluquinho – o filme* [Motion picture]. Brazil: Riofilme.