Understanding Human Development as a Product of Our Evolutionary History and Situated in Cultural Context: A Personal Trajectory

Maria Lucia Seidl-de-Moura

Abstract Influenced by Vygotsky and contemporary sociocultural authors, I have aimed to understand the genesis of development in context. I have studied mother–infant interactions and proposed that they are the origin of "construction zones" (M. Cole). The "development niche" (S. Harkness and C. Supper) of Brazilian children was the next focus of interest and a series of investigations dealt with mothers' beliefs and practices. The main contribution in this set of studies was to include different contexts of the country, in contrast to cross-cultural research that compares small groups of different countries. The need to understand further the context in which development occurs leads to the search of an integrated evolutionary and sociocultural perspective, and a theory of trajectories of development. Furthermore, we have argued that Brazil is a good laboratory to test some hypothesis of Kağitçibaşi's theory, and we have conducted studies that have identified in Brazilian groups a trajectory of development of the self, named by the author as "related autonomy." Future studies need to deal with measurement difficulties, and the onto-genesis of related autonomy, but the most important is to pursue theoretical discussions to understand development as both a phylogenetic and a sociocultural product.

> We shall not cease from exploration, and the end of all our exploring will be to arrive where we started and know the place for the first time.
>
> T. S. Eliot

A Genetic Focus and a General Trajectory of Studies

This chapter aims at presenting a personal trajectory of studies and research as a Brazilian developmental psychologist. Although it may not be an original or significant contribution to the area, this report of the search for understanding

M. L. Seidl-de-Moura (✉)
Institute Department, University of The State of Rio de Janeiro, Rio de Janeiro, Brazil

development as a biologically cultural process may be useful for young researchers. One parallel and inseparable path to my studies is my commitment as a professor and advisor of undergraduate and graduate students to promote their academic development, and I will share some of this experience in the chapter.

I should begin by saying that I never had a proper advisor, and this was a major influence in my career. My Master Thesis' advisor at the University of Wisconsin (UW) confused academic supervision with nondirective therapy. In our supervision sessions, he would stare at me silently for interminable minutes, and I would be paralyzed and incapable of speaking, even if I was well prepared and had done my job. As a foreign student, with my own handicaps, I was very insecure. This whole process was a torture, with many lost work hours. He would let me make choices and engage in processes that were dead ends. When I reported my failure, he would tell me he knew it would not work, but that I had to discover it by myself.

At the doctorate program, in Brazil, the absence of supervision was also the tone. Everything I decided to do, my advisor would say it was fine. I knew it was not, and I struggled to do a good job, but it was much harder than it would be if I had at least some kind of guidance. The consequence was that I was not able to have the complete Dissertation work published in an international journal at the time.

Shocking as it may appear, I had neither a model nor a direct mentor, and I did not have the opportunity to belong to a research group. I applied to be a research assistant at UW during the Master's program, but I was not the selected candidate. The interview was collective, at a beer house. I was very shy and I did not drink beer… Thus, I had to be very resilient to become a researcher and a professor, making all my theoretical and methodological choices by reading and searching in as many sources as I could find. It was solitary and hard work. Later, fortunately, I had many colleagues I could learn from and with whom I could develop good collaborative work.

It was in this scenario that I discovered Vygotsky's theory. I found one of his books in a used bookstore while I was doing my PhD. I had never had courses about him, neither in my Psychology undergraduate studies nor in my Master's. Having read it, I found it fascinating and I took it to my advisor. He dismissed it, by saying he was not an important author. Nonetheless, I started reading all of his other books, and it was the beginning of a lifelong theoretical relationship. I can say that the role models in my career were Vygotsky and Bruner.

Bruner I discovered a little latter, also by myself, and I read most of his publications. I was able to follow the most important contributions he has offered through his exceptionally long and beautiful career, and these contributions have influenced my work. His intellectual biography, published in 1983, In Search of Mind, was a special source of inspiration for me. I deeply identified with his description of himself as having a style of a fox, instead of a hedgehog in the academic life. Curiosity moves me, and I have spent all my work years in search of mind. For me, developmental psychology is an instrument to understand human mind.

Believing in the fundamental importance of theories, falsifying hypotheses fascinated me. My doctoral dissertation aimed at discussing Piaget's proposal that the constructions in the sensorimotor period of development are necessary and

sufficient for the development of language. Understating language as involving not only speech but also language understanding, I conducted a longitudinal study with two babies from eight to 18 months of age. In this study, I observed the onset of language understanding at 10 months, when babies were at intermediate stages of sensorimotor development (Seidl-de-Moura 1988, 1990, 1992, 1993a). The studies at this time motivated me to comprehend the "initial state" of knowledge construction and human development. The discussions between Piaget and Chomsky, in 1975 at the Centre Royaumont des Sciences de l'Homme, in Paris, published in 1980 (Piattelli-Palmarini 1980), were very instigating. Later, this interest in the "initial state" of mind development was rekindled when reading Pinker's *The blank slate: the modern denial of human nature* (Pinker 2002).

Vygotsky's (1984) concept of zone of proximal development (ZPD) intrigued me. It seemed to me that the importance of ZPDs goes beyond the formal educational implications for which it is most widely known. M. Cole gave a contribution to this notion, discussing what he called construction zones (CZ). The difference is that he talks about a process of partners' coconstruction. Differently from Vygotsky's ZPD, it is not the most experienced partner who influences the development of the one less developed, but they both engage in exchanges that promote cognitive change.

In studies with Newman and Griffin (Newman et al. 1989), Cole introduces the notion of construction zones. These, for him, constitute spaces conducive to development, where partners exchange, share, and negotiate meanings. Interpsychological forms of organization gradually change into intra-psychological processes. Each individual elaborates and internalizes their exchanges in a particular way, through a process of appropriation, discussed by Leont'ev (1981). The indeterminacy of discourse is the key concept in the formulation of the notion of construction zone for Newman et al. (1989), because it would partly explain the process of cognitive change. For these authors, when interlocutors interact in conversational exchanges, diverse perspectives are at stake, because there are different interpretations of the context. Each of these interlocutors acts as if the other had the same frame of reference, appropriates what the other says, and interprets it in his/her own way.

Those ideas seemed fertile to me and, at first, I have conducted studies on interaction mediated by computers as ZPDs or CZ, and problem solving. The computer language Logo, which children could use, was a good instrument to observe such process (Seidl-de-Moura 1991, 1993b, 1994, 1998). I was soon attracted to the *genesis* of ZPDs or CZs. Thus, I started to study mother–infant interactions, and proposed that they are the origin of "construction zones" (Seidl-de-Moura 1999). In order to be able to hypothesize this, it was necessary to understand early human development and the capacities of newborn babies (Seidl-de-Moura and Ribas 2004).

Because I understand that there is no genesis without context, the "development niche" (Harkness and Supper 1996, 2005) of Brazilian children was my next focus of interest, and a series of investigations dealt with mothers' beliefs, goals, values, and practices. The main contribution of this set of studies was to include different

contexts within the country, in contrast to cross-cultural research that compares small groups of different countries.

The need to understand further the context in which development occurs leads to the search for an integrated evolutionary and sociocultural perspective, and for a theory of developmental trajectories. The work of Keller (Keller 2002, 2007, 2012; Keller and Kärtner 2013; Keller et al. 2006) and Kağitçibaşi (2007) were theoretical starting points. Furthermore, we have argued that Brazil is a good laboratory to test some hypotheses from Kağitçibaşi's theory, and I was pioneer in studies that have identified in Brazilian groups the trajectory of development of the self, named by the author as "related autonomy," which will be later described. Future studies need to address measurement difficulties, and the ontogenesis of related autonomy, but the most important is to pursue theoretical discussions in order to understand development as both a phylogenetic and a sociocultural product.

Social Interaction as Constitutive of Human Development

Human development is a process resulting from the interaction of biological, species-specific characteristics (such as brain size; prolonged immaturity of human babies and their dependence on adults; high levels of parental investment, etc.), and particular cultural organized environmental conditions, or "developmental niches."

My assumption is that interactions are constitutive of development from the gestation. The partners at first are very different in terms of developmental level, one adult (the mother), a fetus, and a small baby later. How can there be interactions in asymmetrical relationships such as those? Interactions mean *actions between*— inter-actions. The literature on infant development indicates that babies at first have only a limited repertoire, but they can respond to mothers' actions, or they can act and have the mothers respond to them. Babies' ability to engage in these exchanges comes from a set of propensities (open programs), selected throughout our phylogenetic history. These propensities allow the human baby to know him/herself, the world, and his/hers cospecific, and to build with them a matrix of relationships (one of the first ontogenetic tasks) (Ribas and Seidl-de-Moura 1998, 1999; Seidl-de-Moura and Ribas 1998, 2000, 2004).

This interest in genesis and early interactions leads me to invest in observational procedures (Seidl-de-Moura and Ribas 2007). The observations were video recorded in natural environments and later coded. The focus was in interactions, and not socially directed behaviors. Mother and their babies were the target. We developed a protocol that is useful for other studies in the area.

Based on our definition, an interaction starts when one of the partners directs a social behavior and the other responds within 5 s. When one or both of the partners fail to direct social behaviors to the other for a time interval longer than 5 s, it characterizes the end of the interaction episode. Episodes with a duration of 5 s or less are not coded as interactions. Thus, the minimum time to characterize an instance of interaction is 6 s. This definition has led to many discussions and decision-making

processes. In case of doubts, we do not code the event as an interaction, seeking to avoid distortions of overidentifying exchanges between mother and infants.

According to the adopted perspective, what characterizes an interaction is interaction. Thus, it is not enough for the mother, for example, to smile, to touch, or to speak with the baby. It is necessary that the baby respond within the time indicated in the definition, with a social behavior directed to the mother. Thus, interaction is defined by a sequence, which cannot have less than two behaviors, one of the mother and the other of the baby. In the simplest case, it would be a two-turn interaction, with one behavior for each partner.

Mothers or babies can initiate interactional sequences by emitting behavior that deflagrates a response. There must be some reciprocal engagement. When the mother is performing some activity not focused on the baby, which occupies her attention (such as watching TV, for example) and emits a behavior that seems to be associated with an action of the baby, one cannot refer to it as an interaction. However, the mother may be doing something (like washing dishes, for example) and at the same time being attentive to the baby by talking to him/her. In this case, if there is a response of the baby within the conditions of the definition, it would be possible to consider that there was interaction.

Using this methodology, we have observed interactions that involve reciprocity and coordination very early in development. This is possible because of newborn babies' capacities (Seidl-de-Moura and Ribas 2004) mentioned above. In the study of infants of 1 and 5 months old, we found that the interactions are predominantly face-to-face when infants are 1 month, and stimulated by objects at 5 months old, thus indicating a trend observed in Western urban groups (Keller 2007), different from early exchanges in other cultural contexts.

Our studies have confirmed the possibility of early mother–infant exchanges when infants are 1 month old. The role of affectivity in the interactions is evident (Seidl-de-Moura et al. 2004a, b). We have also observed the relationship between mothers' cognitions and their behaviors in interactions (2004b). This was our first investigation of one aspect of the babies' developmental niche, namely mother's cognitions. We have also analyzed the development of self-regulation in small infants by observing the coconstruction process in which the baby depends not only on his/her neurological maturation but also on the presence and action of the mother to modulate states of consciousness (Seidl-de-Moura et al. 2011).

The interactions observed in our studies presented differences in their complexity and in the manifestation of reciprocal affectivity between partners at 1 and 5 months old. The ages of both the baby and the mother are important aspects for the constitution of the interactions. At 5 months, the adult partner—in this case, the mother—responds to the increase in the infants' repertoire, and the exchanges become more complex. They become gradually longer and more complex: partners establish "proto-conversations" of more turns at 5 months old.

Since those early observational studies, affective manifestations and the presence of interactions involving the body contact system have led to the hypothesis that a pattern of related autonomy is present in mothers' care of their babies, as I will discuss later in this chapter (Kağitçibaşi 1996, 2007, 2012).

We have concluded that social interactions occur since birth and even before. They are the stage for the development of human species' typical characteristics, selected throughout evolution by their adaptive value. They are a game that involves synchronization and mutual engagement. In addition, they allow the baby to develop the capacity to communicate and relate their state to that of their social partners, through the expression of emotional states. Their emotional and affective dimensions influence perceptions, behaviors, and the possibility of each partner understanding him/herself and others (Seidl-de-Moura, Mendes, Pessôa & de Marca, 2009). The initial development task is to build a matrix of social relationships.

Interacting with others and with the environment allows the acquisition by human babies of the ability to take the perspective of others and to understand them as intentional beings. To know more about the nature of these exchanges is fundamental to the understanding of ontogenesis and of human mind.

I was one of the editors of a book with two of my (then) doctoral students (Seidl-de-Moura, Mendes & Pessôa 2009)—Social Interaction and Development. This book synthesizes many of the studies and theoretical reflections on this theme.

Developmental Psychology and the Majority of the World

Besides understanding the basis of the ontogenetic process, a fundamental question for researchers in developmental psychology is to define what is universal, and what is circumstantial or culturally specific. In general, those ontogenetic processes have been studied with certain biases. For example, priority has been given to certain forms of interactions (e.g., face-to-face), certain developmental goals (e.g., autonomy and separation), and to what is considered safe attachment. Henrich et al. (2010) criticize this limitation in psychological studies. Kağitçibaşi (2007) points out that psychological studies often focus on Western, Anglo, industrialized contexts, which represent the minority of the world. Non-Western and developing countries, which are what she calls the "majority of the world," are understudied contexts.

One significant example of this bias is about the basic or universal nature of early interactions. According to LeVine (1989), Stern proposed that the observed interaction between mothers and babies in New York involving reciprocal play and proto-conversations represented "… a biologically planned choreography necessary for normal emotional development" (p. 62). However, studies from linguistic anthropologists have found no evidence of this kind of interaction in populations of Papua, New Guinea. In this culture, as Cole (1998a, b) also points out, mothers hold their babies by positioning them to look in other directions rather than at them, and they speak about them (infants), rather than to them. Based on this evidence, according to LeVine (1989), Stern modified his hypothesis regarding the universality of these patterns of interaction, and presented a model consistent with the idea of cultural variations in early development environments. The limits between cultural variations and universals in behavior development is a question that empirical research

should address. These cultural studies motivated me and I found in Keller's (2007) proposal of different universal parental systems and their differential cultural organization a good model to test empirically. Keller takes into account the universal evolutionary basis of behavior, as well as the cultural forms it can assume.

I have discussed the importance of adopting an evolutionary perspective in studying the human mind (Seidl-de-Moura 2005a). In an effort to understand what is universal and the cultural variations it assumes, I published the chapter "Bases for a Socio-Cultural and Evolutionary Developmental Psychology" (Seidl-de-Moura 2005b), in which I present a perspective for studies of ontogenesis which, without denying the biological basis of our behaviors, contemplates the interaction between biology and culture.

I found resonance in the studies of Kağitçibaşi (2007), who claims that there are no single or standardized paths of development, and that we can observe diverse trajectories in varied contexts. In Carvalho et al. (2014), we discuss the different perspectives that had influenced our research work (by Patricia Greenfield, Çiğdem Kağitçibaşi, and Heidi Keller).

Their models have the common objective of understanding the trajectories of the development of the self, based on the dimensions of autonomy and relation, structured according to specific aspects of the environment. Greenfield (Greenfield 2002, 2009; Greenfield et al. 2003) emphasizes the role of sociodemographic variables and their relation to social change. Keller (2007) contributes to the understanding of the biologically cultural nature of development in its ontogenetic and phylogenetic aspects. Finally, for Kağitçibaşi (2007), the family plays a fundamental role in the development of the self and undergoes transformations according to changes in society, especially regarding schooling and urbanization. This author proposes a two-dimensional model that includes agency and interpersonal distance. The intersection of these two axes makes explicit four models of family and of self, among them the related autonomous. With these models as a starting point for reflection, I started to conduct some studies in Brazilian contexts.

The Importance of Intra-Cultural Studies

Studying development in context is a challenge. First, a clear theoretical basis is often lacking in cross-cultural studies. In addition, there are not many discussions in the literature about the evidence-based contributions to the different theories. Often, cross-cultural research is conducted comparing restricted samples from two or more countries. This is problematic because there can be culturally diverse groups in the same country, or even within large cities, such as New York or Rio de Janeiro. The conclusions of comparative studies using very limited groups of participants frequently shocked me. Even in 2015, at the ISSBD conference in Shanghai, I have seen an oral presentation in which the author compared Chinese children living in cities to "minorities." When I questioned the presenter at the end of the session about the great variety of minorities in China, she answered me that "they are all the

same" (!). The observation of many studies with this outlook, and the analyses of the literature in the area led to the interest in doing comparative studies in Brazil.

A review of the literature indicated the absence of intercultural studies exploring Brazilian contexts (a part of the majority of the world—Kağitçibaşi 2007). This has triggered diverse initiatives to explore the beliefs and ideas of parents and other caregivers in different contexts of the country since 2002 (Seidl-de-Moura et al. 2004b). These studies were guided by the assumption that cross-cultural research with small groups of diverse contexts (e.g., American and Chinese mothers), or prototypical groups (e.g., traditional and urban cultures) may not represent the best methodological option to know developmental trajectories, because studies with this approach presuppose intra-cultural homogeneity. Later, taking the model of Kağitçibaşi, we studied diverse developmental trajectories in Brazilian contexts (Pessôa, et al. 2016; Seidl-de-Moura et al. 2008b, 2014; Vieira et al. 2010a, b).

Seidl-de-Moura, Carvalho & Vieira reviewed and synthetized the set of studies conducted on that theme. They have focused on aspects related to mothers' beliefs and values. One study focused on toddlers' development, with the assumption that it reflects the prevalent socialization trajectory in that specific context. Data was obtained on what mothers desire for their children in the future; how they want their children to turn out (socialization goals); what they think is important in caring for them (beliefs about practices); what they highlight in their description of them (ideas about their children), and the way they talk to them (narrative envelope, which is a part of Keller's model). Finally, we have studied children's social-emotional development. Our assumption is that data on mothers reflect somewhat the trajectory they favor in the orientation of their children's development, and are part of the context of development (Seidl-de-Moura et al. 2015).

The results of this set of studies indicate that autonomy and relatedness are not opposite dimensions, being present in specific dynamics in different contexts. Brazil is a large and diverse country of the "majority world," it has undergone important social-demographic and economic changes in the last years, and we consider this country especially appropriate to study these dynamics.

Our results indicate that, in general, Brazilian mothers value both autonomy and relatedness in the conceptions of their children, their narrative styles, their socialization goals, and their practices. However, this model of related autonomy does not present a fixed or unique form, and it is influenced by social-demographic and cultural variables. Parental educational level is one important example of these variables. As observed in the studies, women with higher educational levels tend to value their children's autonomy. They have self-maximization goals for their children, and they want them to succeed and be happy. At the same time, it seems that this increase in educational level does not decrease some of the relatedness tendencies that may have cultural origins, and be associated to our African and Indigenous heritage.

Mothers' educational level is associated to another important variable: urbanization. Although the country has a vast territory, most of its population lives in urban centers. Population size of mothers' cities seems to be another factor that can modulate the importance attributed to autonomy and relatedness. Larger cities present

typical conditions of postindustrial complex societies, which lead to goals of auton-
omy: increase in the number of potential insertion in-groups and of competition,
decrease of loyalty among individuals of any of these in-groups, less social support
from extended family, more isolation, etc. (Velho 1987; Simmel 1973; Triandis
1989). In these contexts, individuals have the opportunity to focus on their own
personal goals, rather than on the goals of any groups they might belong (Triandis
1989).

Our three basic origins—Portuguese, Indigenous, and African people—have
been mixed with people from different immigration waves across the centuries.
First-, second-, and third-generation immigrants married Brazilians and new mixed
families form Brazilian society. Thus, the influence from these different cultures,
many of them oriented towards autonomy and independence (e.g., Germans), has
been complemented by the relatedness tendency of our ancestors, in varying degrees
and forms. The studies indicated differences in the products of the relationship
between autonomy and relatedness according to varying levels of urbanization (size
of population), diverse predominant cultural influences, and educational levels.

We believe that the findings not only present evidence supporting Kağitçibaşi's
theoretical model, but also contribute to the understanding of aspects of Brazilian
developmental contexts. They can also contribute to developmental science and the
relation between universal characteristics and the cultural forms they assume. We
also think that Brazilian mothers' childrearing beliefs and practices, which include
autonomy and relatedness, illustrate Kağitçibaşi's (2012) integrative synthesis pro-
posal. This author has discussed how the development of related-autonomy and
social-cognitive development can be universal and desired healthy developmental
goals. Our study about cooperation and altruism in toddlers and mothers' beliefs
and practices (Pessôa et al. 2015) is another example of the relation between moth-
ers' beliefs and practices and children's social-cognitive development.

Although understanding cultural orientation towards interdependency in rural or
traditional groups, and being aware of tendencies for autonomy goals in urban edu-
cated contexts, we can aim at developing persons who have the best of both tenden-
cies. They would have the benefits of formal education, the opportunities for
self-maximization, and, at the same time, would be able to relate, to be close to
others, and to cooperate. Thus, as shown, we support the hypothesis that autonomy
and relatedness are not mutually exclusive, and they seem to be two aspects of the
parenting models from all over this large country. The studies had participants from
urban centers of different population sizes in all the country's regions, from 16 con-
texts, which is not usual in the literature.

Another positive characteristic of the studies conducted is the variety of method-
ological strategies for data collection: inventories, scales, interviews, and behavioral
observation. Data was analyzed with both qualitative—with coding systems for
video recordings, and interviews—and quantitative methods.

Instruments construction and adaptation was also one of my contributions.
Some of the scales translated and adapted are: Knowledge of Infant Development
Inventory (KIDI) (Seidl-de-Moura et al. 2004b); Social Desirability Scale from
Marlowe–Crowne (Ribas et al. 2004); Scale of Parental Beliefs and Care Practices

(E-CPPC) (Martins et al. 2010); Scales of Self-Autonomous, Interdependent and Related Autonomous of Ç. Kağitçibaşi (Seidl-de-Moura, Ziviani, Fioravanti-Bastos & Carvalho 2013); Family Allocentrism—Idiocentrism Scale (FAS) Seidl-de-Moura et al. 2013).

Aiming at understanding the development in Brazilian contexts from a sociocultural and evolutionary perspective, we conducted a study on different parental investment models (Seidl-de-Moura et al. 2012a). Participants were 315 mothers from different contexts in the country, who had at least one child younger than 6 years old. They answered scales on Allocentrism, Social support, Adult attachment, and Practices of childcare. Mothers' characteristics, the type of context (capital × small city), and reported childcare practices were used in a Tree analysis. A Correspondence analysis was performed using the four clusters obtained and mothers' answers regarding their youngest child. Univariate GLM analyses allowed the comparison of mothers' scores in the different scales. The analyses identified four maternal profiles presenting distinctive patterns of association between mothers' characteristics and care practices. Maternal care is a multi-determined phenomenon, and the method employed in this study can give insights into how the combination of diverse social-biological factors can result in a set of different childcare practices.

Back to the Study of Genesis

The intra-cultural Brazilian studies have indicated that there are some universal developmental pathways, but they can assume different forms, and the development of self can be in the direction of constructing a notion of autonomy and of relation with others in this Western Latin culture. We are back with the original dilemma of finding out how related autonomy is constructed in the ontogenesis, using the ideas of construction zones and development constituted by social interactions. The exploratory study of Seidl-de-Moura et al. (2011) provides some hints of this process, but there is still much to be investigated.

Aiming at relating the developmental trajectory expressed in mothers' beliefs and practices to their children's development, we investigated the early development of self-recognition and self-regulation in toddlers (Seidl-de-Moura et al. 2012b). The initial process of development of self involves interaction with others and the establishment of relationships taking different paths depending on the sociocultural context. Self-recognition and self-regulation are considered manifestations of this development between 18 and 24 months of age. Participants were 94 mothers of different educational levels and their children were of 17–22 months of age from two Brazilian cities. Socialization Goals Inventory and Parental Practices in the First Year Inventory were used to collect data on mothers' beliefs. Children performed tasks related to self-recognition (the rouge mirror test) and self-regulation (compliance to requests). The group of mothers studied valued both autonomy and

interdependence. Children's responses are consistent with a perspective of relational autonomy.

In order to observe the genesis of related autonomy, we analyzed some of our videos of longitudinal studies of mother–infant interactions: two with babies from 2 to 6 months old and four from 13 to 24 months old (Mendes and Seidl-de-Moura 2013; Pessôa and Seidl-de-Moura 2011). We focus on the narrative envelope, or the language the mothers used with their children. This concept is formulated by Keller (2007), and is one of the parental systems in the model of components proposed by the author. According to her, the narrative envelope presents different styles and contents according to cultural models.

Mendes and Seidl-de-Moura (2013) and Pessôa and Seidl-de-Moura (2011) verified that during the periods studied mothers' speech was marked by agency expressions and mental states attributed to the baby, and a statement of needs. Both of these categories are associated with a model that privileges autonomy. On the other hand, we observed the significant presence of categories of social rules and coagency, associated to a trajectory that aims at interpersonal proximity and interdependence. This indicates the presence of tendencies to promote both autonomy and relationship. New longitudinal and observational studies are necessary to further investigate this tendency.

Fostering the Growth of Developmental Psychology in Brazil

The organization of a cooperative network of researchers from different parts of the country, and from diverse institutions was an important byproduct of the collaborative studies that I coordinated. I consider this to be one of my most significant contributions to developmental psychology in Brazil: to promote collaboration between a group of researchers from many institutions across the country. How to compromise and accept differences, and how to administer time and resources were lessons learned from this experience. With the cooperation between researchers, their students also benefitted, by forming new partnerships and engaging in collaborative work.

I was one of the main persons responsible for obtaining funds from different agencies for the development of those studies, for the travelling of professors and students (graduate and undergraduate) within Brazil and to other countries, for technical visits and participation in conferences. We have also organized national and international conferences, and we were able to invite and to finance Brazilian visits of colleagues from other countries. These exchanges with international colleagues were very important for the development of our research programs and of our students.

I am pleased also to have had the first initiative in 1996 to organize a symposium of researchers on developmental psychology that gave origin to the Brazilian Developmental Psychology Association in 1998, of which I am one of the founding members.

I feel it has been a rewarding career in general and that my work has been well received by the academic community in Brazil. This can be evaluated by the grants I have received along the years, the discussions promoted, and the repercussions of several of my talks at conferences. This support from the colleagues and funding agencies has been encouraging and very important to keep me motivated to pursue my endeavor. As I look at this trajectory, I feel satisfied and fulfilled.

A Chosen Path: To Teach, Advise, and Mentor Young Researchers

Looking back at my career, I can see that my personal difficulties to become a researcher because of lack of proper supervision led me to dedicate extensively my time to be the opposite of my advisors. I thought that it was necessary to create an environment that could foster academic growth. Thus, I have founded a research group called Social Interaction and Development—ISDES (www.desin.org) at the State University of Rio de Janeiro, where I have been a Full Professor for 25 years. This group includes undergraduate and graduate students.

From the beginning, in 1993, I was determined to provide opportunities for students to develop research skills, by engaging in actual research studies coordinated by me. We developed theoretical and methodological training, and students are always encouraged to be active participants as research assistants at different levels. They do not work for me, but they were coauthors and learned by doing research to answer some of their own questions, and presenting it at conferences, and writing articles with other members of the group.

The recruiting process to be a member of ISDES is quite hard (but not in a beer house!), and the standards to continue in it are high. Through the years, each beginning of semester we would decide on personal theoretical, methodological, and publication goals, and we would evaluate at the end of the semester how these goals were achieved.

The group atmosphere is of cooperation and not competition. The more experienced (such as the PhD students) supervise undergraduates. The ones who knew a methodological instrument (such as a statistical procedure) would teach it to others. I truly tried to promote the development of autonomous-related professionals. Dozens of students have participated in the group through the years. I have advised 19 PhD students, 25 Master's students, and more than 50 undergraduate students. Several of them are now teaching at universities. What I am proudest of are not the Thesis or Dissertations the members of the group produced, or the publications we have done through the years, mainly in coauthorship, but of the values and attitudes of intellectual honesty, cooperation, curiosity, and hard work that I have encouraged. I believe that academy needs those values, with more emphasis on cooperation, search for knowledge, and reflection, and less on the number of papers published and competition.

Final Considerations

As the reader has been warned, this chapter does not intend to present an original or significant contribution to developmental psychology. It aims at presenting a personal trajectory in search of understanding the genesis of human mind as product of a biologically cultural process. Some things have been learned. The most important of them is the need for good theories of development, theorization, and hypothesis testing, and using theories as instruments and not as cages or canes.

Vygotsky's advice is still valid. We should not look at psychological phenomena as fossilized. We need to understand their history in different planes: microgenetic, ontogenetic, phylogenetic, and cultural. Thus, we cannot neglect the search for the biological and the cultural entwined, for the universal and the diversity of forms it assumes in cultural contexts. In this direction, I believe that the line of work we have conducted and the results of our studies add up to the literature on human development, highlighting the importance of taking into account the context.

Besides all that, in the end it was possible, in my personal path, to give opportunity for the development of a fine group of young researchers who will certainly bring a good contribution to developmental psychology. This makes me happy, and to be happy is very important.

Maybe some final words should be added about how the contribution of my studies is reflected in the world outside academic psychology. I believe that this is mainly through the work of my former students. Several of them, based, in part, on what they learned in our research group, are working on developing programs to promote health across the life span, working with parents, children, teachers, etc.

References

A.N. Leont'ev, *Problems of the Development of Mind* (Progress Publishers, Moscow, 1981)

A.F.P. Ribas, M.L. Seidl-de-Moura, Interações precoces mãe-bebê: a gênese de zonas de construção. Cad. Psicol. Sér. Fundam **9**(3), 59–74 (1998)

A.F.P. Ribas, M.L. Seidl-de-Moura, Manifestações iniciais de trocas interativas mãe-bebê e suas transformações. Estud. Psicol. **4**(2), 273–288 (1999)

Ç. Kağitçibaşi, The autonomous-relational self: a new synthesis. Eur. Psychol. **1**(3), 180–186 (1996). https://doi.org/10.1027/1016-9040.1.3.180

Ç. Kağitçibaşi, *Family, Self and Human Development Across Cultures* (Lawrence Erlbaum Associates, London, 2007)

Ç. Kağitçibaşi, Socio-cultural change and integrative syntheses in human development: Autonomous-related self and social-cognitive competence. Child Dev. Perspect. **6**(1), 5–11 (2012)

D.M.L.F. Mendes, M.L. Seidl-de-Moura, O envelope narrativo e o desenvolvimento do self. Interaç. Psicol. **17**(1), 37–46 (2013)

D. Newman, P. Griffin, M. Cole, *The Construction Zone: Working for Cognitive Change in School* (Cambridge University Press, Cambridge, 1989)

G.D.F. Martins, S.M. Macarini, M.L. Vieira, M.L. Seidl-de-Moura, V.L.R. Bussab, R.M. Cruz, Construção e validação da Escala de Crenças Parentais e Práticas de Cuidado (E-CPPC) na primeira infância. Rev. PSICO-USF **15**(1), 23–34 (2010)

G. Simmel, A metrópole e a vida mental, in *O fenômeno urbano*, ed. by O.G. Velho (Zahar, Rio de Janeiro, 1973), pp. 11–25

G. Velho, *Individualismo e cultura. Notas para uma antropologia da sociedade contemporânea* (Jorge Zahar Editor, Rio de Janeiro, 1987)

H. Keller, Development as the interface between biology and culture: A conceptualization of early ontogenetic experiences, in *Between Culture and Biology: Perspectives on Ontogenetic Development*, ed. by H. Keller, Y. H. Poortinga, A. Schölmerich (Cambridge University Press, Cambridge, 2002), pp. 215–240

H. Keller, *Cultures of Infancy* (Lawrence Erlbaum Associates, Mahwah, 2007)

H. Keller, Autonomy and relatedness revisited: cultural manifestations of universal human needs. Child Dev. Perspect. **6**(1), 12–18 (2012)

H. Keller, J. Kärtner, Development: The cultural solution of universal developmental task*s*, in *Advances in Culture and Psychology*, vol. 3, ed. by M. Gelfand, C. Y. Chiu, Y. Y. Hong (Oxford University Press, New York, 2013), pp. 63–116

H. Keller, B. Lamm, M. Abels, R. Yovsi, J. Borke, H. Jensen, et al., Cultural models, socialization goals, and parenting ethnotheories: a multicultural analysis. J. Cross-Cult. Psychol. **37**(2), 155–172 (2006)

H.C. Triandis, The self and social behavior in differing cultures contexts. Psychol. Rev. **96**, 506–520 (1989)

J. Henrich, S.J. Heine, A. Norenzayan, The weirdest people in the world? Behav. Brain Sci. **33**, 61–135 (2010)

L.F. Pessôa, M.L. Seidl-de-Moura, Fala materna dirigida à criança em cenários comunicativos específicos: Um estudo longitudinal. Psicol. Teor. Pesq. **27**, 439–447 (2011)

L.F. Pessôa, M.L. Seidl-de-Moura, D.M.L.F. Mendes, R.V.C. Carvalho, L.C. Stöbaus, Cooperação e altruísmo no segundo ano de vida e crenças e práticas maternas: um estudo exploratório. Psico (PUCRS. Impresso) **64**, 217–225 (2015)

L.F. Pessôa, M.L. Seidl-de-Moura, D.d.O. Ramos, D.M.L.F. Mendes, Sistemas de cuidados e o discurso de diferentes cuidadores do Rio de Janeiro: evidências de trajetória de desenvolvimento. Estud. Psicol. (PUCCAMP) **33**(1), 71–82 (2016)

L.S. Vygotsky, *A Formação social da mente* (Martins Fontes, Rio de Janeiro, 1984)

M. Cole, *Cultural Psychology: A Once and Future Discipline* (The Belknap Press of Harvard University Press, Cambridge, 1998a)

M. Cole, Culture in development, in *Cultural Words of Early Childhood*, ed. by M. Woodhead, D. Faulkner, K. Littleton (Routledge, London, 1998b), pp. 11–33

M. Piattelli-Palmarini (ed.), *Language and Learning: The Debate between Jean Piaget and Noam Chomsky* (Harvard University Press, Cambridge, 1980)

M.L. Seidl-de-Moura, Processos imitativos na ontogênese da linguagem. Arq. Bras. Psicol. **40**(3), 54–65 (1988)

M.L. Seidl-de-Moura, Aquisição de linguagem: compreensão e produção. Arq. Bras. Psicol. **42**(3), 50–57 (1990)

M.L. Seidl-de-Moura, Construction of knowledge and individual problem solving in two sets of tasks, in *Proceedings XIV International School Psychology Association Colloquium, ISPA* (Universidade do Minho, Braga, 1991), pp. 271–278

M.L. Seidl-de-Moura, Aquisição de linguagem: compreensão e produção em bebês de 8 a 18 meses. Arq. Bras. Psicol. **43**(1–2), 52–78 (1992)

M.L. Seidl-de-Moura, Compreensão inicial de linguagem: e desenvolvimento cognitivo. Arq. Bras. Psicol. **44**(1–2), 3–21 (1993a)

M.L. Seidl-de-Moura, Aprendizagem de LOGO em um grupo de pessoas portadoras de deficiências físicas. Arq. Bras. Psicol. **43**(3–4), 115–120 (1993b)

M.L. Seidl-de-Moura, A interação social e solução de problemas por crianças: Questões metodológicas, resultados empíricos e implicações educacionais. Temas Psicol. **3**, 39–48 (1994)

M.L. Seidl-de-Moura, Interação mediada pelo computador e a investigação psicológica. Psicol. Teor. Pesq. **14**(1), 69–75 (1998)

M.L. Seidl-de-Moura, Interações iniciais e seu papel no desenvolvimento: uma contribuição ao estudo da atividade mediada, Tese defendida e aprovada no concurso de Professor Titular do Instituto de Psicologia da Universidade do Estado do Rio de Janeiro, 1999

M.L. Seidl-de-Moura, Dentro e fora da caixa preta: a mente sob um olhar evolucionista. Psicol. Teor. Pesq. **21**(2), 141–147 (2005a)

M.L. Seidl-de-Moura, Bases para uma psicologia do desenvolvimento sociocultural e evolucionista, in *Temas pertinentes na construção da psicologia contemporânea*, ed. by F.A.R. Pontes, R.C.S. Brito, C.M.C. Magalhães (Editora Universitária UFPA, Belém, 2005b), pp. 163–190

M.L. Seidl-de-Moura, A.F.P. Ribas, Interação precoce mãe-bebê e a concepção de desenvolvimento infantil inicial. Rev. Bras. CDH **8**(1/2), 15–25 (1998)

M.L. Seidl-de-Moura, A.F.P. Ribas, Desenvolvimento e contexto sociocultural: a gênese da atividade mediada nas interações iniciais mãe-bebê. Psicol. Reflex. Crít. **13**(2), 245–256 (2000)

M.L. Seidl-de-Moura, A.F.P. Ribas, Evidências sobre características de bebês recém-nascidos: um convite a reflexões teóricas, in *O bebê do Século XXI e a psicologia em desenvolvimento*, ed. by M.L. Seidl-de-Moura (Casa do Psicólogo, São Paulo, 2004), pp. 21–60

M.L. Seidl-de-Moura, A.F.P. Ribas, A pesquisa observacional e o estudo da interação mãe-bebê, in *Observando as primeiras interações pais-bebê-criança: diferentes abordagens teóricas e metodológicas*, ed. by C.A. Piccinnini, M.L.S. de Moura (Casa do Psicólogo, São Paulo, 2007), pp. 103–130

M.L. Seidl-de-Moura, A.F.P. Ribas, K.C. Seabra, L.F. Pessôa, S.E. Nogueira, R.C. Ribas Jr., Interações iniciais mãe-bebê. Psicol. Reflex. Crít. **17**(3), 295–302 (2004a)

M.L. Seidl-de-Moura, R.C. Ribas, C.A. Piccinini, A.C.D.S. Bastos, C. Magalhães, N.M.R. Salomão, et al., Conhecimento sobre desenvolvimento infantil em mães primíparas de diferentes centros urbanos do Brasil. Estud. Psicol. **9**(3), 421–429 (2004b)

M.L. Seidl-de-Moura, E. Lordelo, M.L. Vieira, C.A. Piccinini, J.e.O. Siqueira, C.M.C. Magalhães, et al., Brazilian mothers' socialization goals: Intra-cultural differences in seven cities. Int. J. Behav. Dev. **32**(6), 465–472 (2008a)

M.L. Seidl-de-Moura, A.F.P. Ribas, K.C. Seabra, L.F. Pessôa, S.E. Nogueira, D.M.F. Mendes, et al., Interações mãe-bebê de um e cinco meses de díades urbanas: aspectos afetivos, comportamentos, complexidade e sistemas parentais predominantes. Psicol. Reflex. Crít. **21**(1), 66–73 (2008b)

M.L. Seidl-de-Moura, D.M.L.F. Mendes, L.F. Pessôa, *Interação Social e Desenvolvimento* (Editora CRV, Curitiba, 2009)

M.L. Seidl-de-Moura, D.M.L.F. Mendes, L.F. Pessôa, R. de Marca, O desenvolvimento do *self*, in *Interação social e desenvolvimento*, ed. by M.L. Seidl-de-Moura, L.F. Pessôa, D.M.L.F. Mendes (Editora CRV, Curitiba, 2009), pp. 131–146

M.L. Seidl-de-Moura, T. Targino, K. Nahum, E.M. Cruz, G. Amaral, R. de Marca, Parenting cultural models of a group of mothers from Rio de Janeiro, Brazil. Span. J. Psychol. **12**(2), 506–517 (2009)

M.L. Seidl-de-Moura, D.M.L.F. Mendes, L.F. Pessôa, R.G. de Marca, C. da, Regulação dos estados de vigília de bebês (um e cinco meses) em contextos diádicos mãe-bebê. Psicol. Pesq. **5**, 51–60 (2011)

M.L. Seidl-de-Moura, T.T. Bandeira, R.G.d.C. de Marca, L.F. Pessôa, D.M.L.F. Mendes, M.L. Vieira, A.P. Kobarg, Self-recognition and self-regulation: The relationship with socialization trajectories and children's sex. Span. J. Psychol. **15**(2), 604–612 (2012a)

M.L. Seidl-de-Moura, A.L. de Souza, A.D. Oliva, M.L. Vieira, E.d.R. Lordelo, R.S. Tokumaru, T.T. Bandeira, Profiles of maternal investment and care observed in a group of Brazilian mothers: an exploratory study. Span. J. Psychol. **15**(3), 989–999 (2012b)

M.L. Seidl-de-Moura, L.F. Pessôa, D.M.L.F. Mendes, R.V.C. Carvalho, Social Interaction and Development Lab: parenting and trajectories of self development in Brazil. ISSBD Bull. **2**, 33–36 (2012)

M.L. Seidl-de-Moura, R.V.C.C. Carvalho, M.L. Vieira, Brazilian mothers parenting models, in *Parenting in South American and African Contexts*, ed. by M. L. Seidl-de-Moura (InTech, Rijeka, 2013)

M.L. Seidl-de-Moura, C. Ziviani, A.C. Fioravanti-Bastos, R.V.C.C. Carvalho, Adaptação das Escalas de Self Autônomo, Relacionado e Autônomo-Relacionado de Ç. Kağitçibaşi. Aval. Psicol. **12**(2), 193–201 (2013)

M.L. Seidl-de-Moura, C. Ziviani, A.D. Oliva, A.C. Fioravanti-Bastos, R.C. de Ribas Jr., Dimensions of familiar allocentrism in Brazilian mothers from state capitals and small cities. Span. J. Psychol. **16**(44), 1–12 (2013)

M.L. Seidl-de-Moura, D.M.L.F. Mendes, L.F. Pessôa, A.C.M.F. Bastos, L. Brooking, Beliefs of mothers, nannies, grandmothers and daycare providers concerning childcare. Paidéia **24**(59), 341–349 (2014)

M.L. Seidl-de-Moura, L.F. Pessôa, D.M.L.F. Mendes, R.V.C. Carvalho, L.C. Stöbaus, Cooperação e altruísmo no segundo ano de vida e crenças e práticas maternas: um estudo exploratório. Psico (PUCRS) **64**, 217–225 (2015)

M.L. Vieira, M.L. Seidl-de-Moura, A. Rimoli, C.M. Magalhães, C.A. Piccinnini, E. Lordelo, et al. (eds.), Mother's beliefs about childrearing practices in seven Brazilian cities. J. Cross-Cult. Psychol. **41**(2), 195–211 (2010a)

M.L. Vieira, M.L. Seidl-De-Moura, S.M. Mafioletti, G.D.F. Martins, R.S. Tokumaru, E. Lordelo, A.D. Oliva, H. Keller. Autonomy and interdependency: beliefs of Brazilian mothers from State capitals and small towns. Span. J. Psychol. **13**(2), 816–824 (2010b)

P.M. Greenfield, The mutual definition of culture and biology in development, in *Between Culture and Biology*, ed. by H. Keller, Y. H. Poortinga, A. Schoelmerich (Cambridge Univ. Press, Cambridge, 2002), pp. 57–76

P.M. Greenfield, Linking social change and developmental change: shifting pathways of human development. Dev. Psychol. **45**(2), 401–418 (2009)

P.M. Greenfield, H. Keller, A. Fuligni, A. Maynard, Cultural pathways through universal development. Annu. Rev. Psychol. **54**, 461–490 (2003)

R.V.C.C. Carvalho, M.L. Seidl-de-Moura, G. Martins, M.L. Vieira, Culture and developmental trajectories: a discussion on contemporary theoretical models. Early Child Dev. Care **184**(11), 1599–1614 (2014). https://doi.org/10.1080/03004430.2013.871273

R.A. LeVine, Cultural environments in child development, in *Child Development Today and Tomorrow*, ed. by W. Damon (Jossey-Bass, San Francisco, 1989), pp. 52–68

R.C. Ribas, M.L. Seidl-de-Moura, C. Hutz, Adaptação brasileira da Escala de Desejabilidade Social de Marlowe-Crowne. Aval. Psicol. **3**(2), 83–92 (2004)

S. Harkness, C.M. Super, Themes and variations: parental ethnotheories in Western cultures, in *Parental Beliefs, Parenting, and Child Development in Cross-Cultural Perspective*, ed. by K. Rubin, O. B. Chung (Psychology Press, New York, 2005), pp. 61–79

S. Harkness, C.M. Super (Eds.), Parents' cultural belief systems: their origins, expressions, and consequences (Guilford, Nova York, 1996)

S. Pinker, *The Blank Slate* (Viking, New York, 2002)