

## Do research outcomes have an influence upon the training of professional caregivers?

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Based on previous research work on infant development in residential structures for risk infants (see Molina & Bonino, 2001; Molina, 2002), we present some considerations about the use of research to support early infancy professional caregivers educational intervention.

Two principal issues will be addressed:

- use of observational practice in daily educational interventions (see Molina, Mapelli, Sapino, & Siena, 2001);
- transmission of some theoretical knowledge to professional caregivers, namely attachment theory, and its use in improving quality of professional care (Goldschmied & Jackson, 1994, Ministère de l'Emploi et de la Solidarité, 1997; Pikler, 1988).

Finally, some implications for researcher and collaboration with professional caregivers are discussed.

Based on research work on infant development in residential structures for infants at risk (Molina & Bonino, 2001; Molina, 2002), we will develop some considerations about the use of research to support the educational action of early infancy professional caregivers.

Although in many countries infant research developed closely connected to practice in day care and infant facilities, usefulness of research for professional caregiver is an open question.

In fact, researcher's purposes are often different from caregiver's purposes, and research tools are not useful for daily educational practice: too difficult to use, too expensive, too time consuming, too problematic in result interpretation.

For instance, observational research is a very expensive and time consuming activity, and it is really hard transferring research procedure into practical daily activity of professional caregivers. Notwithstanding, observation is an essential tool for professional caregivers, and a quite relevant point of their professional competence (Munton, Mooney, & Rowland, 1996).

Our assumption is that we need to fulfill some conditions to obtain at the same time a good (and useful) research and a good practice in educational contexts:

- researchers must respect professional caregiver's aims and practice, and they must be conscious of the contribution of professional activity and experience;
- professionals must accept research contribution as a useful mirror (although sometimes rough) of their practice, and use research data to obtain a better knowledge about infants and their own educational practice.

In this perspective two principal issues will be addressed.

1. use of observational practice in daily educational interventions (Molina, Mapelli, Sapino, & Siena, 2001);

2. transmission of some theoretical knowledge to professional caregivers, namely attachment theory, and its use to improve the quality of professional care (Colton, 1988; Goldschmied & Jackson, 1994; Ministère de l'Emploi et de la Solidarité, 1997; Pikler, 1988).

### *Our research project*

We will not examine here the whole set of the research hypotheses, methods, evaluation tools, and results of our work: only some issues will be considered, with respect to their effect on educational practice.

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Table 1

## Risk Infants: Reasons of Separation from Family

	N	%
Drug Addiction	25	65.79
Alcohol Addiction	1	2.63
Mother's Psychological Disease	5	13.16
Abused, Maltreated or Neglected	7	18.42
TOTAL	38	100.0

Some preliminary considerations on our research project are nevertheless necessary. Our study was carried out in Torino (Italy) with the purpose of studying infants separated at birth from their inadequate families (see Table 1).

Most mothers presented drugs addiction, and their infants suffered, at birth, from withdrawal symptoms; remaining infants were maltreated or separated because the mothers suffered from psychological diseases.

The infants at risk lived in the "Comunit  Alloggio" (C.A.) of the District of Torino (Italy), which are small apartment groups, where they are cared for by professional caregivers (8 infants and 12-14 adults, that work in shifts of about 8 hours in one day). There are three C.A. in Torino.

The C.A. developed as a short time alternative (first aid intervention) to the residential care in the early '80s. Several changes came about in the last years, and now the infants stay for quite a long periods (12-18 months) in C.A. before the Court decides their future.

The District of Torino funded our research because several doubts were raised about the adequacy of this solution for the proper development of infants. The professional caregivers as well supported this research program, being worried for infants' longer and longer stay in C.A.

Infants suffered then from three different risk conditions: birth-risk conditions, mainly for mother drug addiction; separation from the mother and discontinuity in caring, because C.A. organisation does not allow any continuity of care by the same caregiver.

Table 2

## Sample

	Male	Female	TOTAL
Comunit� Alloggio	20	18	38
Family	18	20	38
TOTAL	38	38	76

We decided to evaluate the development of infants separated from mothers and cared for in C.A. in the first year of life comparing them with infants developing normally in their families. Our subjects were 38 infants (4-15 months) living in the C.A. and 38 infants living in their families in Torino (I), matched by age (see Table 2).

The use of infants living in normal families as a control group is not an obvious choice: professional caregivers reasonably asserted that this comparison was not fair, because developmental conditions are too different to allow this kind of comparison. We asserted on the contrary that this comparison was meaningful in order to understand the quality of the *good enough* environment for child development, and to analyse the main differences in the home and institutional environment. The research results somehow confirmed our point of view.

Our research framework was the attachment theory perspective (Bowlby, 1969, 1973, 1980), both in research and in training intervention. As to this specific point of view (the training intervention), our purpose was trying to foster thinking about and modifying the organisation and the educational relationship, the only issues professional caregivers were able to control.

Our intervention was very simple: we periodically discussed the research results with professional caregivers, and one of us (Maria Letizia Soderini) carried out a number of training meetings with them on specific problems. We had no responsibility in the management of C.A. We will describe here some relevant topics we dealt with in our research and training intervention.

*Observing children and adults*

The first issue we will address is the utility of systematic observation for educational practice and particularly to help caregivers in thinking about their professional organisation.

We used some observational tools, and we systematically discussed with caregivers the results of our observations.

*The Time-budget*

The first tool was a very simple instrument, a time budget. Time-budget is a questionnaire designed to collect data on daily life, particularly from a sociological perspective (Livolsi, De Lillo e Schizzerotto, 1980; Bondioli, 1990; Musatti, 1992).

Every half-an-hour, caregiver must complete the questionnaire reporting: where the infant is, her/his activity,



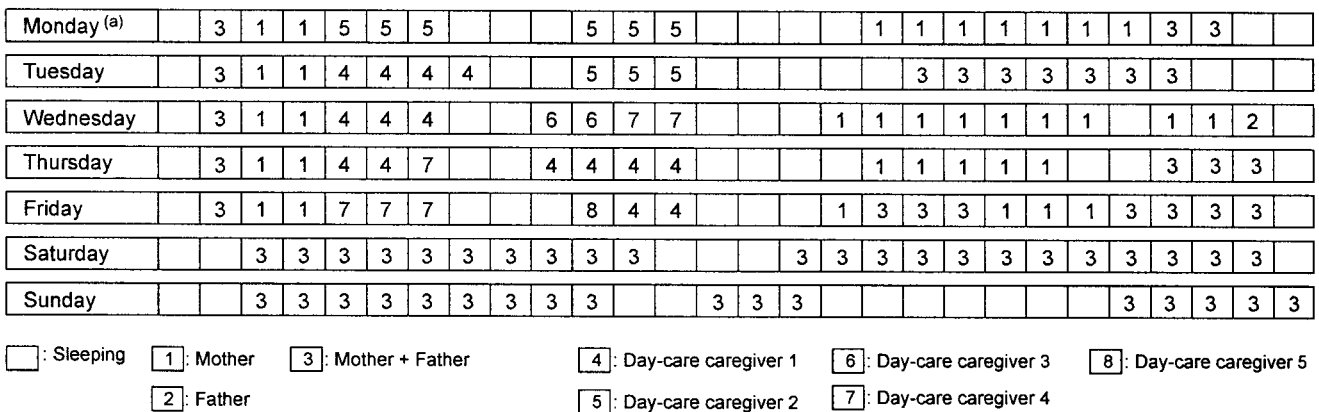


Figure 2c. Time budget results. Family infants, attending day-care



Figure 2d. Time budget results. Infants in Comunità Alloggio

<sup>(a)</sup>Squares are half-an-hour periods and each number is a different caregiver

This results were quite surprising for the caregivers as well. It is obvious that an infant, cared for by 15 different caregivers in a week, with each of them caring for the infant for two hours at most, is not in a good condition from the psychological point of view (Loutre-Du Pasquier, 1981). The caregivers knew, in principle, the situation: but the research results allowed the professionals to perceive the real condition of each infant, often unperceived because of the presence of a large number of infants. These results were a first point of discussion among the professional caregivers.

*The ELO-Scales*

The second observation condition was a three minutes face-to-face interaction, rated by nine scales (the ELO-Scales: Wijnroks, 1994; 1997; Brighi, 1997), evaluating

different facets of maternal sensitivity: vocalisation, emotional expression, tempo, emotional involvement, non-directivity, non-interference, timing, synchronisation, quality of handling. Caregiver and infant were sitting face-to-face, the infant sitting in a child's chair. A mirror behind infant allowed to record the infant's as well as the caregiver's face .

The professionals were doubtful about the ecological validity of this situation, because it doesn't actually exist in everyday life in C.A.: so they expected a really remarkable difference from family infants data.

On the contrary, we did not found such a difference (see Figure 3): mothers were more active and emotionally involved with infants than professional caregivers; nevertheless, we did not find differences in the finest facets of interaction, as timing, non-directivity, and so on ... We interpreted this results in terms of professional competence concerning good interaction with infants.

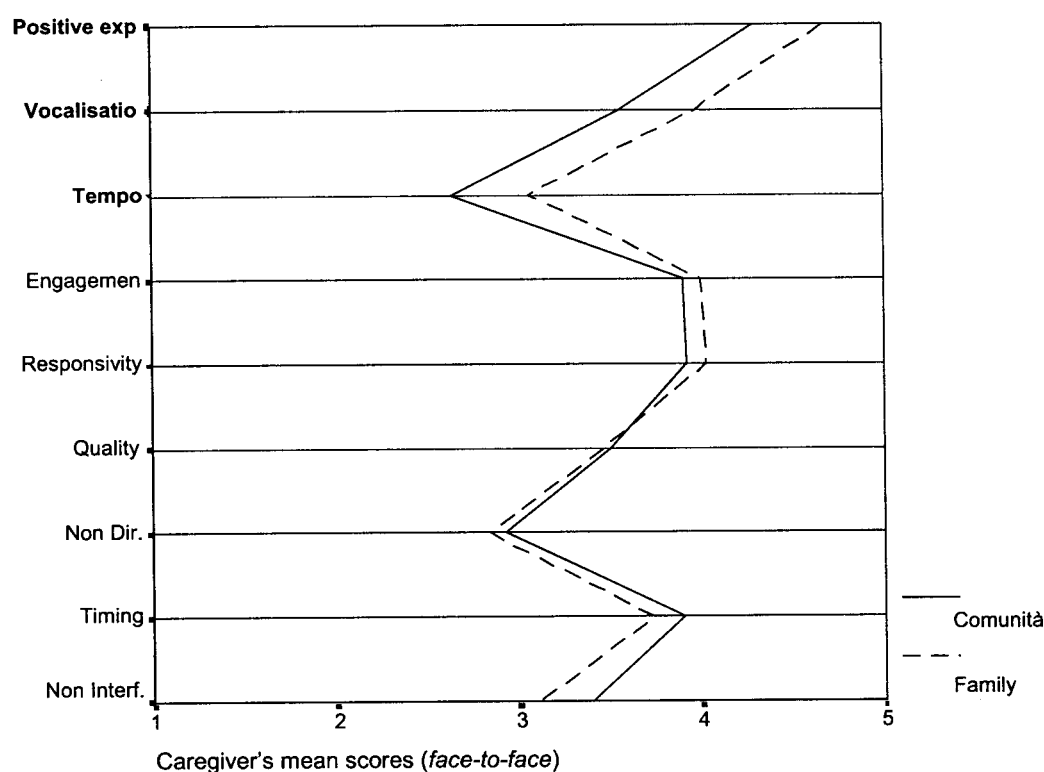


Figure 3. ELO-Scales Means Scores (*face-to-face* situation) in Family and *Comunità Alloggio* <sup>(a)</sup>  
 (a) Bold characters indicate significant differences between Family and C.A. caregivers

A relevant point to our issue is the use of videotaped interactions in professional caregiver training (Appel & Scheurer, 2002), carried out by one of us (Maria Letizia Soderini). Aims of this intervention were:

- to stress the importance of daily non-verbal communication with infants, mainly in routine contexts, for psychological development;
- to support professional caregiver's consciousness of messages conveyed by physical contact, infant manipulation, attention to infant communication, and so on;
- to show non-verbal communication features and their relevance while adults communicate with infants: this way of communication is often underestimated in educational intervention, especially in educational groups of infants.

We don't have systematic data on the effect of this intervention, we can only report the professional caregivers' opinions about training: positive and negative points were stressed by professionals.

The more important difficulty reported, especially at the beginning, was the unfamiliar and not ecologically

valid observational situation: child restricted in the child's chair, inactivity of adult, and so on. Moreover, in the use of videotaped images in training situation, it was particularly difficult seeing oneself, and being seen by the colleagues, in a group situation. Obviously, the use of video recording in training activity is particularly delicate: we were very careful in obtaining the consensus from each caregiver before using her/his image and in considering her/his individual position in the group. Nevertheless, the training formation was considered unanimously positive, mainly because it allows:

- a better understanding of how infants communicate;
- thinking about how this routine works;
- finding again the pleasure of interacting with infants, finally acknowledged as an important dimension of their educational role.

#### *The Attachment Theory*

During the training work, we could discuss with professional caregivers on some theoretical notions on early development. We got the feeling that, mainly from psycho-

logical literature on attachment and early relationships, professionals take only account of the damages of precocious separation, and of the lack, in an institutional context, of the kind of affection existing in usual family life (AA.VV., 1962; Bowlby, 1951; Rutter, 1972; Spitz, 1958). Therefore, they use to consider (correctly) that infants should stay just a short time in C.A., but they don't consider the literature on early relationships as a tool for their educational intervention.

On the contrary, we stressed the possibility to maintain *good enough* relationships with infant, supporting her/his psychological development, with no need of just some kind of parental emotional involvement. This competence includes the attitudes in face-to-face relations, and the organisation of daily experience of infants as well. We stressed especially the importance of continuity in caregiving persons in order to establish this relationship (not only good interaction: see Hinde, 1987). Relationship in this sense is in fact a forecast on partner's attitude based on previous interactions, this means that continuity in experience between partners is needed, even if this experience does not necessarily imply some kind of parental emotional involvement.

We find support to this ideas in data concerning emotional development of infants, especially in attachment development.

Working with infants in the first year of life, we settled an observational tool to evaluate the development of attachment bond, particularly the use of one specific adult as *secure base* in the environment (Molina & Bonino, 1999; Molina, in press). To point out the importance of the attachment in the first year, we used the infant developing ability to differentiate familiar and non-familiar caregivers and to choose familiar persons for support: there were relevant differences between family and risk infants (Molina & Bonino, 2001). We analysed the role of different variables, namely age of infants, quality and amount of interactions, and number of caregivers caring for infants during a week, on an index of this competence (the item "Turn to familiar caregiver for soothing") In C.A. we found (see Table 3 and Figures 4 and 5):

- an age effect as expected, because infants ranged from 4 to 15 months: older infants passed the item more often than younger; quite surprising, this effect was absent in family infants.

Table 3

Predictors of Item "Turn to familiar caregiver for soothing" in Family and in Comunità Alloggio <sup>(a)</sup>

Family (N=36)				
Predictors	B <sup>(b)</sup>	Exp (B) <sup>(c)</sup>	Wald	P <sup>(d)</sup>
Number of caregivers	.5185	1.6796	1.5165	.2182
Factor Score Quality ( <i>Elo-Scales</i> )	.7419	2.1000	1.4305	.2317
Factor Score Quantity ( <i>Elo-Scales</i> )	.1727	1.1886	.1400	.7082
Age (in weeks)	.2843	1.3288	.9286	.3352
(Constant)	-2.4049		.6768	.4107
- 2 Log Likelihood <sup>(e)</sup>	25.195	P=.4313 <sup>(d)</sup>	GL=4	
Pseudo R <sup>2</sup> (Nagelkerke) <sup>(e)</sup>	.182			
Goodness of Fit (Hosmer & Lemeshow) <sup>(e)</sup>	4.2291	P=.7530	GL=7	
Comunità Alloggio (N=32)				
Predictors	B <sup>(b)</sup>	Exp (B) <sup>(c)</sup>	Wald	P <sup>(d)</sup>
Number of caregivers	-.3962	.6729	1.7250	.1890
Factor Score Quality ( <i>Elo-Scales</i> )	.1832	1.2011	.1516	.6970
Factor Score Quantity ( <i>Elo-Scales</i> )	-.5126	.5989	.8265	.3633
Age (in weeks)	.8596	2.3623	7.4064	.0065
(Constant)	-3.4696		.7621	.3827
- 2 Log Likelihood <sup>(e)</sup>	25.807	P=.0009 <sup>(d)</sup>	GL=4	
Pseudo R <sup>2</sup> (Nagelkerke) <sup>(e)</sup>	.595			
Goodness of Fit (Hosmer & Lemeshow) <sup>(e)</sup>	9.5403	P=.2988	GL=8	

a Logistic regression, *enter* method

b The B parameter specifies the effect direction and intensity: if negative, there is a decrease, if positive, an increase of the probability of item presence

c Exp(B) is a measure of *strength* of this effect, and expresses the change on the probability rate between response presence and absence (*odds*): positive B ranges between 1 and infinity; negative B ranges between 0 and 1

d P is the parameter/ model statistic significance

e *Fit* indexes of the model: for their interpretation see Aldrich & Nelson, 1984.

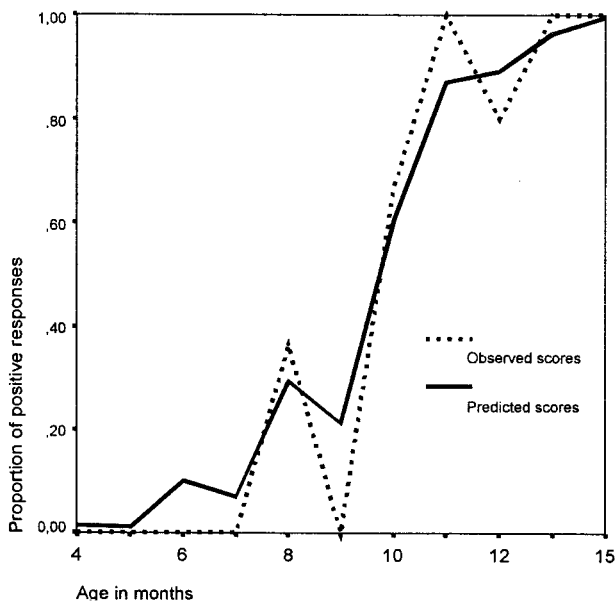


Figure 4. Item "Turn to familiar caregiver for soothing" by age (Comunità Alloggio)

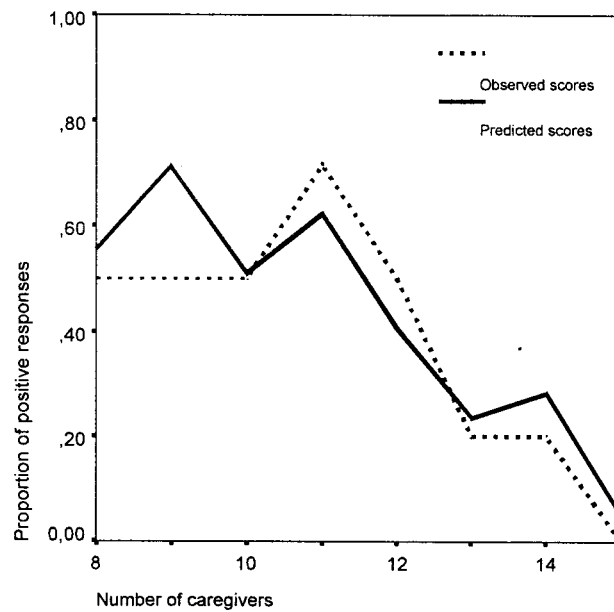


Figure 5. Item "Turn to familiar caregiver for soothing" by number of caregivers (Comunità Alloggio)

- as in family, no effect by quality and amount of interaction measures (that is ELO-Scales factor scores which, were similar for professional caregivers and mothers; we can then consider *good enough* the professional competence in interaction).
- an effect of the caregivers' number: infants cared from a lower number of adults were more prone to search familiar person(s) for soothing; this effect was not present in family infants.

When caring adults are competent enough in interacting with infants, the stability of caregivers becomes important in the institutional context for developing attachment relationships (Goldschmied & Jackson, 1994; Loutre-Du Pasquier, 1981; Ministère de l'Emploi et de la Solidarité, 1997; Pikler, 1988).

## DISCUSSION

How to obtain conditions for a good action and research? We would like to suggest some points of debate concerning researcher attitude, considering our initial remarks. First, we need to consider the situation complexity of the field work as compared to laboratory: I hope that our work may suggest some examples for better understanding this complexity.

We also need to pay a special attention while transferring theoretical knowledge to professionals: often we com-

municate only the more trivial and stereotyped notions, and the use of this notions by professionals risks to be doubtful. We think, on the contrary, that professionals need a *concrete* application of not-trivial theory.

Finally, we need to pay special attention in offering to professional caregivers tools (particularly observation tools, that are very necessary in educational practice) conceived for use in daily practice: this is not only important to improve professional efficacy, but a very exciting field for psychological research.

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