

RIVISTA
DI PSICOLINGUISTICA
APPLICATA

★

JOURNAL
OF APPLIED
PSYCHOLINGUISTICS

RIVISTA DI PSICOLINGUISTICA APPLICATA JOURNAL OF APPLIED PSYCHOLINGUISTICS

Direttore Scientifico / Editor-in-Chief
MARIA ANTONIETTA PINTO

Redazione / Editorial office
Dipartimento di Psicologia dei Processi di Sviluppo e
Socializzazione · Università di Roma “Sapienza”
Via dei Marsi 78 · I 00185 Roma

Segretario di Redazione / Editorial Secretary
Dott. Sergio Melogno · Via dei Marsi 78 · I 00185 Roma
mariantonietta.pinto@uniroma1.it

Direttore Onorario / Honorary Editor
RENZO TITONE
Prof. Emerito / Emeritus Prof. Università di Roma
“Sapienza” e Toronto (Canada)

Comitato Scientifico / Scientific Board
FRANCESCO ARCIDIACONO (Un. de Neuchâtel · CH), BEATRICE BENELLI (Un. di Padova · Italia), CRISTINA CASELLI (Ist. di Psicologia C.N.R. Roma · Italia), SIMONETTA D'AMICO (Un. dell'Aquila · Italia), ANTONELLA DEVESCOVI (Un. di Roma “Sapienza” · Italia), LAURA D'ODORICO (Un. di Milano “Bicocca” · Italia), ALESSANDRA FASULO (Un. of Portsmouth · UK), EMILIA FERREIRO (Ist. Politecnico Nac. · Mexico), DAVID LASAGABASTER (Un. del País Vasco · España), GIUSEPPE MININNI (Un. di Bari · Italia), MARGHERITA ORSOLINI (Un. di Roma “Sapienza” · Italia), MARIA DA GRAÇA PINTO (Un. de Porto · Portugal), STEFANIA STAME (Un. di Bologna · Italia), TRAUTE TÆSCHNER (Un. di Roma “Sapienza” · Italia), ARTURO TOSI (Royal Holloway, Un. of London · UK), JEAN VIVIER (Un. de Caen · France).

★

«Rivista di psicolinguistica applicata / Journal of Applied Psycholinguistics»
is an International Peer-Reviewed Journal
indexed by APA PsycINFO.
The eContent is Archived with *Clockss* and *Portico*.

RIVISTA
DI PSICOLINGUISTICA
APPLICATA

XIII · 2 · 2013

JOURNAL
OF APPLIED
PSYCHOLINGUISTICS

STUDIES ON LANGUAGE DEVELOPMENT:
COGNITIVE, SOCIAL, COMMUNICATIVE
AND CLINICAL ASPECTS

Special Issue edited by

MARIA ANTONIETTA PINTO · SIMONETTA D'AMICO



PISA · ROMA
FABRIZIO SERRA EDITORE
MMXIII

Amministrazione e abbonamenti

FABRIZIO SERRA EDITORE

Casella postale n. 1, succursale n. 8, I 56123 Pisa,
tel. +39 050542332, fax +39 050574888, fse@libraweb.net
Periodico quadrimestrale

I prezzi ufficiali di abbonamento cartaceo e/o Online sono consultabili
presso il sito Internet della casa editrice www.libraweb.net

*Print and/or Online official subscription rates are available
at Publisher's web-site www.libraweb.net.*

I pagamenti possono essere effettuati tramite versamento su c.c.p. n. 17154550
o tramite carta di credito (*American Express, Visa, Eurocard, Mastercard*)

Uffici di Pisa: Via Santa Bibbiana 28, I 56127 Pisa,
tel. +39 050542332, telefax +39 050574888, fse@libraweb.net

Uffici di Roma: Via Carlo Emanuele I 48, I 00185 Roma,
tel. +39 0670493456, telefax +39 0670476605, fse.roma@libraweb.net

★

Autorizzazione del Tribunale di Pisa n. 4 del 20.02.2001

Direttore responsabile: Lucia Corsi

Sono rigorosamente vietati la riproduzione, la traduzione, l'adattamento,
anche parziale o per estratti, per qualsiasi uso e con qualsiasi mezzo effettuati,
compresi la copia fotostatica, il microfilm, la memorizzazione elettronica,
ecc., senza la preventiva autorizzazione scritta della *Fabrizio Serra editore*, Pisa · Roma.
Ogni abuso sarà perseguito a norma di legge.

Proprietà riservata · All rights reserved

© Copyright 2013 by *Fabrizio Serra editore*, Pisa · Roma.

Fabrizio Serra editore incorporates the Imprints *Accademia editoriale*,
Edizioni dell'Ateneo, *Fabrizio Serra editore*, *Giardini editori e stampatori in Pisa*,
Gruppo editoriale internazionale and *Istituti editoriali e poligrafici internazionali*.

www.libraweb.net

ISSN 1592-1328

E-ISSN 1724-0646

CONTENTS

STUDIES ON LANGUAGE DEVELOPMENT: COGNITIVE, SOCIAL, COMMUNICATIVE AND CLINICAL ASPECTS

Special Issue edited by

MARIA ANTONIETTA PINTO · SIMONETTA D'AMICO

MARIA ANTONIETTA PINTO, SIMONETTA D'AMICO, <i>Editorial</i>	9
TIZIANA AURELI, PAOLA PERUCCHINI, JANA M. IVERSON, <i>Motor acts and communicative gestures from 9 to 18 months of age in imperative and declarative context: tracing the origin and development of pointing</i>	21
CARMEN BELACCHI, SILVIA PANTALEONE, ASSUNTA MARANO, MARCO DI-SPALDRO, SIMONETTA D'AMICO, <i>Cognitive and linguistic components of lexical ability development in preschoolers: an exploratory study</i>	31
PAOLA BONIFACCI, PIERA GIULIANO, <i>Letter knowledge, phonological awareness and vocabulary in Italian preschool children: relationships and developmental trajectories</i>	43
MAJA ROCH, ELENA FLORIT, <i>Narratives in preschool bilingual children: the role of exposure</i>	55
ANNALISA GUARINI, ALESSANDRA SANSAVINI, SILVIA SAVINI, ROSINA ALESSANDRONI, GIACOMO FALDELLA, PATRIZIO PASQUALETTI, ANDREA MARIN, <i>Phonology, lexicon and grammar in very preterm children at 5 years</i>	65
LAURA ZAMPINI, MIRCO FASOLO, LAURA D'ODORICO, <i>Prosodic skills in children with Down syndrome in relation with lexical and syntactic development</i>	79
CHIARA TOMA, MARGHERITA ORSOLINI, <i>Can I help you understand me? Maternal repair practices and responsiveness in interactions with language-impaired children</i>	89
MARIA ANTONIETTA PINTO, <i>In memory of Renzo Titone</i>	105

CAN I HELP YOU UNDERSTAND ME? MATERNAL REPAIR PRACTICES AND RESPONSIVENESS IN INTERACTIONS WITH LANGUAGE-IMPAIRED CHILDREN

CHIARA TOMA* · MARGHERITA ORSOLINI**

University of Rome "Sapienza"

ABSTRACT: *This study examines the interplay between repair practices and emotional responsiveness and availability in interactions of 12 mothers with their 4- and 5-year-old children with Specific Language Impairment (SLI). Conversational sequences characterized by linguistic and communicative mother-child misunderstanding were identified and described through a qualitative analysis. Frequency of different types of mothers' repair practices was then analysed as a function of two factors: (i) the mother's emotional sensitivity and capability of providing an emotional-cognitive scaffolding to her child; (ii) the child's linguistic abilities. By using a qualitative Conversational Analysis approach we identified a gradation in the mothers' repair practices, from mitigated conversational sequences, that were likely to promote the child's participation to the building of intersubjective understanding or to control child's emotions, such as shame or anger, to unmitigated sequences characterized by other-repair practices in which mothers took all the responsibility for clarifying the child's turns and/or express corrections in an emotionally aggravated way. By analyzing the frequency of different types of repair practices as a function of the mothers' emotional availability (Biringen 2008) we found that the mothers who were more likely to be emotionally connected with their children were less likely to be involved in unmitigated repair sequences. Reciprocally, the mothers who were more emotionally sensitive and skilled in constructing a "holding environment" for their child were more likely to be involved in mitigated repair sequences. Finally, we observed that mothers tended to be involved in other-repair unmitigated practices more often when their child's linguistic abilities were lower.*

KEYWORDS: *Repair practices - Responsiveness - Mother-child interaction - Intersubjective understanding - SLI.*

1. INTRODUCTION

ACCORDING to Schegloff, talk in interaction has an underlying "organization of practices for dealing with trouble or problems in speaking, hearing, and understanding the talk" (Schegloff 2006: 77). This organization allowing the parties to locate and deal with troubles in mutual understanding deploys repair procedures that can be implemented by the speakers themselves (self-repair) or other recipients (other-initiated repair). According to Schegloff, Jefferson & Sacks (1977), self-repair is structurally preferred: the initial opportunity to start a repair addressing and resolving a trouble is likely to occur in the same turn in which the trouble

- Definitive version received in July 2013.

* Corresponding author: Chiara Toma, Neurocognitive Developmental Rehabilitation Service, Pisa University Hospital, Via Roma 67, 56126 Pisa (Italy); chiaratoma13@gmail.com.

The study presented in this article is based on Chiara Toma's PhD dissertation.

** Margherita Orsolini; margherita.orsolini@uniroma1.it.

source occurred (“same-turn repair”) or in its immediate surroundings. Even in other-initiation repairs, recipients of talk that is for them troublesome prefer signalling the trouble source without offering a candidate repair: in this way, the responsibility for repairing a problematic turn is left to the speaker.

The importance of repair practices for building intersubjective understanding has to be emphasized. No matter of whether troubles affect structural components of language (phonology, lexical selection, grammatical structure, prosody), or language-world links (e.g., person reference terms), repair practices interweave the “basic interactivity of ordinary talk”, allowing an immediate, local determination of intersubjectivity: “each next turn displays some basic understanding of the just prior or some prior other talk, action, scene, and so forth, or it displays the problematicity of such understanding” (Schegloff 2006: 79). How are the repair practices structured when the recipient is an adult language user and the speaker a preschool child with specific language impairment? Will the repair organization show the same subtle display of intersubjectivity and the structural preference for self-repair that are shown in ordinary talk between adults?

Children with specific language impairment (SLI) have difficulties at multiple language levels (phonological, lexical, morphological, pragmatical) and their effective participation in a conversation is often considerably hindered. Many studies observed that children with SLI are less active participants in conversation with their parents or peers, and frequently produce unclear, ambiguous or unintelligible utterances (Conti-Ramsden 1990; Paul, & Elwood 1991; Conti-Ramsden, Hutcheson, & Grove 1995; Yont, Hewitt, & Miccio 2002).

Parents of children with SLI are thus more likely to deal with conversational breakdowns and the need to restore intersubjective understanding. At the same time, due to their frequent language problems, children with SLI are more likely to experience a lack of intersubjective understanding, which may result in emotions such as anger or shame, associated to conversation and communication breakdowns.

How do mothers prevent these children’s feelings when they deal with failures of mutual understanding in interactive talk? This question points to the emotional responsiveness mothers are likely to show in talk with their language-impaired child. Skibbe, Moody, Justice & McGinty (2008) highlighted the importance of a positive socio-emotional climate in the interaction between mothers and children with language disorders. Interestingly, 4-year-old children with SLI showed high participation in shared book reading only when mothers’ behaviors were highly sensitive in terms of emotional support, and skilled in both structuring book reading activity and preserving child’s autonomy.

A longitudinal research (La Paro, Justice, Skibbe, & Pianta 2004) showed that children with SLI at age 3 were more likely to resolve their language impairment when they were 4,5-year-old if their mothers were highly supportive, respectful of the child’s autonomy, less prone to show hostility and less depressed. Emotional sensitivity shown by mothers in conversation with their language-impaired child has been less investigated compared to maternal *linguistic* responsiveness, and its effects on language development. It is well known, from studies such as those by Girolametto, Weitzman, Wigs and Pearce (1999), that responsive maternal speech input (e.g., imitating, labeling objects to which the child is attending, expanding

the child's words into phrases) enhances both receptive and expressive language learning and has robust longitudinal effects on children's language development (Girolametto *et al.* 1999).

It is not clear to what extent the construct of "responsiveness" can be used to analyze repair practices in interaction between mothers and children with SLI. Woulde & Barton (2001) analyzed corrective repair sequences occurring in shared book reading between mothers and children with SLI, and compared the repair procedures to sequences characterized by the initiation-response-evaluation exchange, typical of teacher-pupils conversation. In such three-turns conversational structure children are asked "to display their knowledge and allow parent to evaluate children's responses in a very similar way teacher-pupil talk was identified in educational institutions" (Woulde *et al.* 2001: 22). Barachetti and Lavelli (2011) analyzed shared book reading between mothers and children with SLI, and in particular, the level of support that maternal repairs provided to model a child's correct response. The results showed that mothers of children with SLI produced more high-supportive repair than mothers of age-matched children but not more than mothers of language-matched younger children. Thus, mothers interacting with children with SLI or at early stages of their language development, are more likely to use a didactic type of repair in which strong cues are provided to elicit the speaker's correct response.

The results of these studies suggest that repairs can be used not only to create a "local determination of intersubjectivity" (Schegloff 2006) but also to implement an instructional type of talk, in which a more expert and competent recipient provides a less competent speaker with "language acquisition" practices. Through maternal repairs a child with language impairment may receive cues eliciting newly acquired words or grammatical structures.

In this study we maintained that mothers' work for helping their child to repair a problematic utterance can be done with an overt and marked pedagogical stance or in more subtle ways striving to keep adult' and child' conversational roles more symmetrical compared to the initiation-response-evaluation structure typical of instructional contexts. We could also think that mothers who are emotionally sensitive, aware of the child's signals, willing to respond in an appropriate way and prone to provide an emotional-cognitive scaffolding, are more likely to enhance child's self-repair, and/or promote the child's participation to a co-constructed repair work.

The specific aim of the present study was to explore the interplay between mothers' repair practices and emotional responsiveness and availability. We addressed these issues as follows:

- a) Mothers' repair practices may differ in terms of participation structures, with less asymmetrical repair practices involving a child actively contributing to a revision of his/her problematic utterance, and more asymmetrical structures being characterized by a mother carrying out the whole corrective procedure.
- b) If mothers differ in terms of propensity for using less asymmetrical repair practices, these differences may be related to the mother's emotional sensitivity and capability of providing an emotional-cognitive scaffolding to his/her child.
- c) Using more asymmetrical repair practices is likely to be related to child's language level, with more delayed children eliciting more pedagogical and asymmetrical mothers' repair practices.

II. METHOD

Participants

Twelve Italian preschoolers with SLI and their mothers participated in this study. The group of children consisted of 4 females and 8 males, whose age ranged from 4 years and 1 month and 5 years and 11 months (mean age: 4 years and 9 months). Participants were recruited from a Research and Care Service in Rome (Italy), a Neurocognitive Developmental Rehabilitation Service in Pisa (Italy), and two private speech therapy centers in Rome and Pisa.

Each child had a diagnosis of expressive or phonological language impairment, not secondary to other conditions. The diagnosis of specific language impairment was based on standardized tests or on clinical observations collected periodically in the early years of the child's life. Children were involved in a speech therapy treatment with the exception of one child who had interrupted his therapy 7 months before the observations of this study began.

Observations

Mother-child interactions were video-recorded with a fixed camera and took place in the rooms where children usually had speech therapy treatments. Mother-child dyads were observed for approximately 15 minutes in two different situations within one session lasting about 30 minutes.

In the first situation, mother-child dyads were asked to look through some photos depicting significant moments in the child's family or school life (e.g., birthdays, holidays). In the second situation, mother-child dyads engaged in a pretense play with materials provided by the researcher (a car, a puppets' family, some small accessories, forest and farm animals and a fence). Before starting the video-recording, the researcher introduced herself and briefly explained mothers that she would like to observe children's talk with their parents and recommended to communicate with their children as they usually did at home.

The activity of looking through some photos ended before the time we had suggested (i.e., 15 minutes) for 4 mother-child dyads.

Transcription

Verbal interaction of each mother-child session was transcribed using the "Child Language Data Exchange System" (CHILDES; MacWhinney 1995). Each line of transcription included just one utterance. According to Cresti and Moneglia's (1997) criterion, utterances are pragmatic units based on speakers' perception of prosodic boundaries in the speech flow. Fall of intensity, pause, rhythm, final lengthening are all signs of prosodic boundaries between utterance units.

Analyzing repair sequences

After a qualitative description of the maternal discursive and interactional repair practices we identified three different types of other-repair practices that were eventually used for quantitative analyses.

We coded other-repair sequences in which mothers either start and perform

a repair or co-construct a repair eliciting the child's participation. Sequences in which the child's production of a trouble source was followed by self-initiated repairs were not considered in our coding scheme.

Other-repair sequences were coded using three categories that distinguished the degree to which an asymmetrical repair practice was mitigated by a mother's interactive and conversational style. Sequences were coded as *mitigated* when the mother offered the child the opportunity of actively participating at the building of intersubjective understanding or when the mother's corrective work overtly prevented child's emotions such as shame or anger. These repair sequences, in turn, were further differentiated in (i.) *mitigated exposed* and (ii.) *mitigated embedded*, considering whether the repair interrupted the main topic and became the principal conversational focus (Jefferson 1987) or, conversely, was fluently embedded in the flow of conversation. On the other hand, other-repair sequences were coded as (iii.) *unmitigated* when the mothers took all the work of clarifying the child's trouble source and/or expressed corrections in an emotionally aggravated way (e.g., producing a negative evaluation).

The differentiation between mitigated and unmitigated other-repair sequences took into account verbal and nonverbal cues including prosody and the participants' proxemics.

Analyzing emotional responsiveness

The whole session (play and looking through familiar photos) of each mother-child pair was analyzed with the *Emotional Availability Scales – IV Edition – Infancy/Early Childhood Version* (child's age: 0-5 years) (Biringen 2008). The EA Scales consist of six dimensions of the emotional availability of an adult toward the child and the child toward the adult. Specifically, in this study we considered the two adult's dimensions of sensitivity and structuring.

- *Sensitivity* codes the adult's ability to be warm and emotionally connected with the child. Scores of sensitivity range from 7 (little interaction, affective negativity, unawareness of the child's signals, little or no sense of timing, intention to hurt or to be abusive) to 29 (high amount of interaction, positive and appropriate emotional communication between adult and child, awareness of the child's signals and promptness to respond in an appropriate way, sense of timing and rhythm during interaction, flexibility in interaction modalities, respectful speaking/acting).

- *Structuring* assesses the adult's ability to provide cognitive and emotional scaffolding to the child taking into account and following the child's proposals and contributions.

Scores of structuring range from 7 (no guidance or unsuccessful attempts to move the child to a higher level, little or no structuring, no limits) to 29 (right amount of proactive guidance and suggestions, right level of monitoring, preparing and planning, successful attempts to move the child to a higher level, appropriate limits and boundaries).

One of the authors (C.T.) obtained the EA-scales reliability after attendance of a Distance Training, consisting in the analysis of 7 video-recordings of mother-child interaction and e-mail discussions with the EA-scales author on the appropriate coding.

Analyzing the child's language level

Children's level of language development was analyzed using CLAN Programs (MacWhinney 1995) to compute mean length of utterances (MLU) and linguistic fluency (number of different words per minute). We computed these indices only for those interactions occurring in the play context, as their duration was the same across the 12 mother-child participants.

Reliability

Interobserver reliability for maternal repairs coding was calculated on a sample of 75% of the video taped interactions (9 cases out of 12). Repair sequences were coded using three categories: exposed mitigated, embedded mitigated, unmitigated. Two different raters analyzed the repair sequences using these three codes (mutually exclusive and exhaustive) and Cohen's kappa was then computed. We obtained kappa = .96, an "almost perfect" degree of agreement according to Landis & Koch (1977).

For maternal Sensitivity and Structuring, the coding reliability relies on the "Emotional Availability Distance Training" program that was attended by one of the authors (C.T.).

Statistical analyses

One of the dyads was ruled out from the statistical analyses as a highly problematic and conflictual interaction with the child led the mother to abruptly interrupt the two interactional situations.

We computed quantitative data using the scores as follows:

- a) percentage of mother's turns occurring in other-repair sequences over the total number of mothers' turns;
- b) percentage of mother's turns occurring in mitigated and unmitigated sequences over the total number of mothers' turns;
- c) scores of mother's emotional Sensitivity and Structuring;
- d) child's mean length of utterances (MLU) and the score of linguistic fluency.

We used these scores to compute correlations with Spearman's rank coefficient, a nonparametric measure of statistical dependence between two variables.

III. RESULTS

Qualitative analyses of repair practices in mother-child interaction

Sequences characterized by linguistic and communicative mother-child misunderstanding were identified and described with a qualitative analysis focused on maternal discursive and interactional repair practices. Inspired by Conversational Analysis approach, we identified a *gradation* in the way mothers repaired their children's problematic communicative acts.

The minimum grade of repair occurred in sequences consisting of a child's problematic turn followed by an other-initiated repair which was in turn followed by child's self-correction.

In such sequences, mothers gave the child the maximum degree of agency (Duranti 2007) to clarify his/her turn and the repair practice was characterized by

minimal work by the adult in the sequence. One example of these sequences consist of adults using a “minimal grasp strategy” (Ochs 1991) consisting of unspecific requests for clarification (e.g., utterances such as “mh?”, “what?”, “eh?”).

Specific requests for clarification were also used by mothers to initiate a repair while a minimum role in the repair work was still played, and the child was left with the responsibility of disambiguating the problematic turn. This practice was often performed by mothers to clarify ambiguous references to places, people or things in the child’s turn.

A deeper involvement of mothers in repair sequences occurred when the same trouble source was followed by multiple requests for clarification or attempts to understand the child’s problematic turn. The repair practices consisted of requests to focus attention on the trouble source of direct suggestions (e.g., requests to complete a word or a sentence initiated by the adult), occurring separately or in succession within the same sequence. In these cases, the adult’s guidance was rather strong.

An even greater degree of adult’s “repair work” consisted of mother guessing the problematic part of the child’s turn. In these cases, the trouble source mainly concerned the phonological form of the speech. Such “expressed guess strategy” (Ochs 1991, 2006) was used by mothers in their attempt to monitor and reach shared understanding of the child’s speech. In these cases, the adult tried to provide a “candidate repair”, but used a confirmation request that left the child the responsibility of accepting/refusing the maternal guess.

EXTRACT 1

Context: looking through some photos.

ADU and LEO are looking at a photo of the child’s birthday. ADU asks him what gift he will prefer for his next birthday, and Leo says he wants a table football.

190. *ADU: *senti e chi invitiamo a giocare?*
listen, and who will we invite to play?
191. *LEO: *Sara [=! sottovoce].*
Sara [=! in a low voice].
192. *ADU: *Sara?*
Sara?
193. *LEO: *sì [= guarda la madre].*
yes [= looks at her mother].
194. *ADU: *[=! ride] e che lei gioca con il biliardino secondo te?*
[=! laughs] and do you think she will play with the table football?
195. *LEO: *sì [= guarda la madre].*
yes [= looks at her mother].
196. *LEO: *<po’ xxx> [>].*
<a bit xxx> [>].
197. *ADU: *<senti e quest’ anno invece ci andiamo al mare> [<] e*
<listen, and next year will we go to the seaside> [<]
and make
facciamo una buca così grossa?
a hole in the sand that big?
[= prende una foto e la avvicina al bambino, poi indica la buca]
[= takes a photo and shows it to the child, then points to the hole in the sand]

198. *LEO: *sì*.
yes.
199. *LEO: *po' &miosà, po' &mimita*,
a bit non-word, a bit non-word (phonologically similar to *invita*, [invites], *amica*, [friend], *litiga*, [quarrels], or *mitiga*, [mitigates]),
[=*guarda la madre e gesticola con la mano sinistra*]
[= looks at his mother and gestures with his left hand]
Sara po' &mimita.
Sara a bit non-word.
200. *ADU: *poi t' invita?*
does she invite you?
201. *LEO: *po' &minita Sara, po' &minita*.
Sara is a bit non-word, a bit non-word.
[=*gesticola con la mano sinistra e inclina la testa*]
[= gestures with his left hand and tilts his head]
202. *ADU: *è la tua amica?*
is she your friend?
203. *LEO: *&mitita [= prende una mano della madre], po' &mitita*.
non-word [= takes his mother's hand], a bit non-word.
204. *ADU: *litiga?*
is she quarreling?
205. *LEO: *&mitita*.
non-word.
206. *ADU: *mitiga?*
mitigates?
207. *LEO: *po' &mitita, vuole tempe [: sempre] sua mamma!*
a bit non-word 'cause she always wants her mother!
[=*sposta le foto sul tavolo, non guarda la madre*]
[= shifts the photos on the table and does not look at his mother]
208. *ADU: *<timida> [!] timida amore:, timida giusto!*
<shy> [!] shy, my love, shy, right!
[=*lo accarezza dietro la nuca*]
[= caresses him on his nape]
209. *LEO: [=*sposta le foto sul tavolo e non rivolge lo sguardo alla madre*] [= shifts the photos on the table and looks at his mother]
210. *ADU: *vole sempre la sua mamma perché è un po' timida, bravo:, bravo:*
always wants her mom because she is a bit shy, a bit shy, good, you're right
bra(vo) [/ -] mamma non aveva capito subito però bravo si dice proprio così +"
good [/ -] mummy did not understand immediately but, good, you're right +".
211. *ADU: *+ " un po' timida [= accarezza il viso del bambino].*
+ " a bit shy [= caresses LEO'S face].

In this sequence, the mother's repair work of guessing the child's intended word seems to be rather frustrating for the child. After providing a semantic definition (turn 207) that allows the mother to infer the intended word, the child eventu-

ally contributed to a co-constructed repair sequence ending with a re-established intersubjective understanding and emotional closeness. This sequence is a good instance of what we coded as *exposed mitigated* sequence. It is exposed because the child's trouble source is clarified through a quite long conversational work that clearly interrupts the previous conversational focus. It is mitigated because the mother looks for the child's confirmation and, at the same time, deploys several verbal and nonverbal cues of affection and positive evaluation (see turn 208, 210).

In other sequences, the adult's guessing occurs in embedded repairs that do not interrupt the main conversational focus. In these cases mothers do not ask for confirmation as the phonological form used by the child is quite close to the standard form. The mother provides the child with the correct articulatory form and, at the same time, shows and monitors her own understanding.

EXTRACT 2

Context: looking through some photos.

ADU and LEO are looking at a photo.

35. *ADU: *e qui quando era* [= indica un'altra foto]?
and here, it's when [= points to another photo]?
36. *LEO: **dormo [: dormo] cata [: casa] di nonno!**
I'm sleeping at grandfather's home!
[= unisce i due palmi delle mani e li avvicina
all'orecchio, riproducendo il gesto di dormire]
[= joins the two palms and brings them closer to the
ear, reproducing the gesture of sleeping]!
37. *ADU: *quando dormi a casa di no:nno!*
when you are sleeping at grandfather's home!
38. *ADU: *e chi sei qui* [= indica nella foto]?
and who are you here [= points in the photo]?
39. *LEO: [= guarda la foto]
[= looking at the photo]
Fede [/ -] me, *Fedelico* [: Federico].
Fede [= his brother] [/ -], me, *Fedelico* [: Fede-
ricol].
40. *ADU: *con lo stesso pigiama* [=! sorride guardando LEO]!
with the same pijamas [=! smiling at LEO]!
41. *LEO: **sì, annavamo [: andavamo] tommire [: dormire].**
yes, we went to sleep.
[= riproduce di nuovo il gesto del dormire, guar-
dando la mamma]
[= reproduces the gesture of sleeping again, watch-
ing his mother]
42. *ADU: *eh perché andavate a dormire.*
yes, because you went to sleep.

An example of the maximum degree of adult's repair work is provided by the extract below, in which the mother initiates a repair not embedded in the conversational flow and performs the whole repair work.

EXTRACT 3

Context: pretense play.

SER and ADU are naming the animals on the table, choosing which to put in the fence and which to leave out.

246. *ADU: *questo che cos' è?*
this is what?

- [= tocca l'animale che SER ha messo nel recinto]?
 [= touches the animal that SER put in the fence]?
 247. *SER: #2 [=! *sottovoce*] *toro* [= *guarda l'animale*].
 #2 [=! in a low voice] bull [= looking at the animal].
 248. *ADU: no.
 no.
 [= prende l'animale che la bambina ha messo nel recinto e glielo mostra]
 [= takes the animal that she put in the fence and shows it to her]
 249. *ADU: [=! *alza il tono di voce*] *un asino* [= *guarda la bambina*]!
 [=! raises her voice] a donkey [= looks at her child]!
 250. *SER: *asino* [= *guarda gli animali*]!
 donkey [= looks at the animals]!
 251. *ADU: *asino* [= *rimette l'asino nel recinto*].
 donkey [= puts the donkey back in the fence].

In this sequence, the adult's question (246) initiates a didactic sequence: after the child's non-target answer (247), the adult overtly rejects it, shows the word referent and provides an other-repair (turn 249) repeated by the child (turn 250), and eventually confirmed by the adult.

The sequence of extract 4 is an example of what we coded as *unmitigated* repair, as the mother (a) emphasizes the correction that interrupts the conversational main focus; (b) the child does not have an active role in revising the trouble source; (c) the mother's prosody or gestures do not contribute to emotional closeness with the child.

Repair practices: descriptive statistics

The analysis of mother-child interaction allowed us to identify 403 repair sequences for an amount of 1033 turns in which mothers initiated and managed a repair practice (over a total number of 5382 maternal turns).

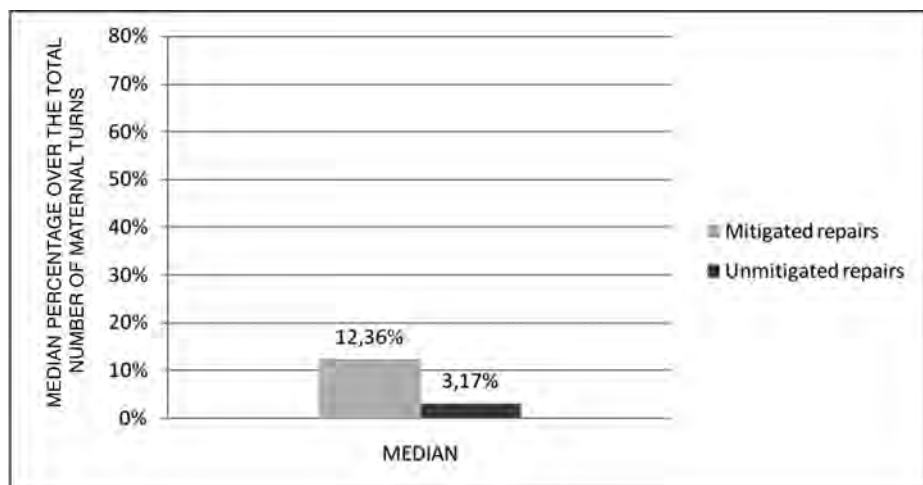


FIG. 1. Median percentage of different types of maternal repair turns over the total number of maternal turns.

TABLE 1. Raw and percentage frequencies of mitigated and unmitigated maternal turns over the total number of maternal repair turns.

	UNMITIGATED TURNS	MITIGATED TURNS	TOTAL NUMBER OF REPAIR TURNS
ELI	9 7 %	124 93 %	133 100 %
FLA	27 37 %	45 63 %	72 100 %
FRA	54 47 %	60 53 %	114 100 %
LEO	17 10 %	150 90 %	167 100 %
LEM	11 15 %	61 85 %	72 100 %
LOR	4 12 %	30 88 %	34 100 %
LOS	12 20 %	48 80 %	60 100 %
MAR	19 15 %	104 85 %	123 100 %
MAC	9 11 %	70 89 %	79 100 %
SER	26 33 %	54 67 %	80 100 %
MAT	11 11 %	88 89 %	99 100 %

We then selected the median percentages of mitigated and unmitigated maternal turns and represented them Figure 1.

As we can observe in Figure 1, mothers engaged in mitigated repair practices with a median percentage of 12,36 % over the total number of maternal turns, whereas they corrected children in a unmitigated way with a median percentage of 3,17 %. Thus, although children frequently produced unclear, ambiguous or unintelligible utterances because of their linguistic impairment, mothers devoted only about 15 % of their conversational turns to repair practices. As we observed (see TABLE 1), however, remarkable intragroup variability in the raw occurrences of repair turns (range = 34-167), we also considered the percentage of unmitigated and mitigated repairs over the total number of mothers' turns in the subsequent analyses. This gave us a device for analyzing the incidence of different types of repair practices that took into account mothers' talkativeness in the overall session.

Correlations between maternal repairs and emotional availability

We first analyzed the frequency of types of repair practices as a function of the mothers' emotional availability (Biringen 2008). We then computed the percentage of maternal repair turns over the total number of mothers' turns in the whole session. Afterwards, we analyzed the correlation with the measures of mothers' emotional Sensitivity and Structuring based on scores from 7 to 29.

TABLE 2. Maternal repair and emotional availability.

		Percentage of maternal repair turns
Sensitivity	Correlation coefficient	,300
	Sig. (2-tailed)	,370
	N	11
Structuring	Correlation coefficient	,421
	Sig. (2-tailed)	,198
	N	11

As Table 2 shows, correlation coefficients did not approach the conventional threshold of significance ($\alpha = 0.05$) but are suggestive of a trend to a positive relationship. The correlation was higher (although not statistically significant) between Structuring scores and the percentage of turns in which the adult engaged in repair practices. In other words, mothers who were more skilled in constructing a "holding environment" for their child, were more likely to be involved in repair practices. In our second analysis, we computed the percentage of mothers' turns (over the total number of maternal turns in the whole session) occurring in mitigated and unmitigated repairs. We then analyzed the correlation with the measures of mothers' emotional Sensitivity and Structuring.

Again, as Table 3 shows, the correlation did not approach the conventional threshold of significance ($\alpha = 0.05$) but there was a "trend" to a positive relationship between

TABLE 3. Types of repair and emotional availability.

		Percentage of mitigated turns	Percentage of unmitigated turns
Sensitivity	Correlation coefficient	,475	-,492
	Sig. (2-tailed)	,140	,124
	N	11	11
Structuring	Correlation coefficient	,674*	-,294
	Sig. (2-tailed)	,023	,380
	N	11	11

*. Correlation is significant at the 0.05 level (2-tailed).

Sensitivity score and the percentage of maternal mitigated repairs. Conversely, there was a negative relationship between Sensitivity score and the percentage of unmitigated repairs. Table 3 also shows a positive and statistically significant correlation between maternal Structuring and mitigated repairs. Thus, mothers showing a greater capability of providing an emotional-cognitive scaffolding to his/her child were more likely to start a co-constructed repair or to incorporate the repair practices in the flow of conversation rather than interrupting it explicitly.

Repair practices and the child's language level

To investigate whether the mothers repair practices were affected by the child's language level we computed the child's mean length of utterance (MLU), and linguistic fluency (number of different words per minute).

As Table 4 shows, correlations indices, although not approaching the conventional threshold of significance ($\alpha = 0.05$), are nevertheless suggestive of a negative trend in the correlation between the frequency of repair practices in mother-child verbal interaction and the child's language level. Mothers of children with lower linguistic abilities were more likely to be engaged in repair practices and tended to be involved in unmitigated repairs more often when their child's language level was lower.

IV. DISCUSSION

This study examined the interplay between repair practices and emotional responsiveness and availability in interactions of mothers with their 4- and 5-year-old children with specific language impairment (SLI). Our concern was motivated by frequent conversational breaks generated by speech problems in children with SLI. The literature shows that mothers use repair practices – mostly consisting in requests for clarification – not only to re-establish mutual understanding but also to involve children in a type of instructional type of talk that is likely to make mother-child communication profoundly asymmetrical and, as a result, to undermine mother-child emotional closeness and involvement.

TABLE 4. Repair practices and child linguistic abilities.

		Percentage of maternal repair turns	Percentage of mitigated turns	Percentage of unmitigated turns
Child's MLU	Correlation coefficient	-,519	-,100	-,433
	Sig. (2-tailed)	,102	,770	,184
	N	11	11	11
Child's linguistic fluency	Correlation coefficient	-,301	-,009	-,036
	Sig. (2-tailed)	,369	,979	,915
	N	11	11	11

On these assumptions, we asked whether mothers' repair practices would differ in terms of being more or less asymmetrical, and to what extent these differences could be related either to the mothers' emotional availability and responsiveness or to the children's language level. To investigate these issues, we video recorded twelve mother-child dyads in two different situations: looking through some family photos and engaging in pretense play. We selected other-repair sequences in which mothers either perform a repair or co-construct it by eliciting the child's participation. Our qualitative analysis, inspired by a Conversational Analysis approach, revealed a *gradation* in the repair work performed by the mothers in enhancing the child's turn clarification.

The *gradation* in the asymmetry of mother-child conversational roles highlighted by the repair practices suggested that when the preference for self-repair (Scheffloff *et al.* 1977) could not be used to support the participants' mutual understanding, there was still a modulation in the autonomy and responsibility of speech clarification that the adult warranted to the child. Through repair practices, in which different degrees of autonomy were modulated to implement intersubjective understanding, the mothers seemed to be aware that their children could construct a sense of *agency* (Duranti 2007) through conversations, and felt to be skilled in helping the recipient to understand.

Turning to the quantitative analyses of our study, we coded other-repair sequences using two categories that distinguished the degree to which an asymmetrical repair practice was mitigated by a mother's interactive and conversational style. Our correlational analyses showed that mothers who were more often engaged in mitigated repairs also had a high score in the Structuring component of the Emotional Availability Scales (Biringen 2008). In other words, they were more skilled in offering the child an emotional and cognitive support in the whole session, and not only when they were involved in repair practices. Correlational analyses also showed that there was also a trend toward a negative relationship between unmitigated repairs and mothers' emotional sensitivity. Despite the fact that unmitigated repairs were relatively unusual in our corpus of data, they tended to be more frequently produced by mothers who received a lower score on Emotional sensitivity.

The language level of the child also proved to be related to repair practices, though in a less strong way compared to mothers' emotional structuring. Children with a lower MLU were involved more often in repairs and more often in unmitigated types of repair practices.

Thus, our study suggests that repair practices are related both to the mothers' emotional availability and to the child's language level. While the mutual relationship between children's language development and parents' conversation has been well documented in several studies (Paul *et al.* 1991; Vigil Hodges, & Klee 2005; Girolametto, Bonifacio, Visini, Weirzman, Zocconi, & Pearce 2002; Yoder, Warren, McCathren, & Leew 1998; Conti-Ramsden *et al.* 1995), the influence of the mothers' emotional availability on repair practices is indeed a new finding, whose explanation is open to alternative speculations. First, it may be argued that interacting with a child whose speech is frequently unintelligible has an effect on mothers' anxiety making the conversation likely to be "hyperpedagogical", and less emotionally tuned to the child's need of being acknowledged as a competent participant.

Alternatively, it can be speculated either that mothers' repair practices and lower emotional availability are not a direct consequence of the child's language level, but an expression of a more general attachment pattern, or that these repairs might be mediated by the child's low emotional regulation skills. There are studies showing – though with some controversial findings – that attachment patterns do affect language use and development (van Ijzendoorn, Dijkstra, & Bus 1995; Barwick, Cohen, Horodezky, & Loikasek 2004; Oades-Sese 2011) and that children with specific language impairment are likely to have difficulties in emotional regulation (Fujiki, Brinton, & Clarke 2002; Fujiki, Spackman, Brinton, & Hall 2004). Thus, both mother-child attachment relationships and children's low emotional regulation skills are likely to make conversation less structured in terms of participants' cooperation to intersubjective understanding. In turn, the occurrence of frequent interactional and discursive breaks is likely to inhibit children's use of language and to undermine advances in language development.

We believe that our findings may have some relevance for intervention programs with parents of children with SLI. Descriptions of repair practices that are more or less oriented to the active involvement of children in conversation can suggest some good practices that parents could implement when faced with failures of intersubjective understanding with their impaired child. Adults' awareness of the emotions elicited by the child's unintelligible speech should be part of the program.

Finally, we would like to point to some important limitations of our study, consisting both in the low number of participants and in the type of children's linguistic assessment that, in our opinion, was insufficiently analytical, partly due to the heterogeneous standards of the clinical centers accepting to collaborate with us. Future studies should include a more detailed and in-depth assessment of children's cognitive and language skills, as well as an evaluation of the child's temperament and emotional regulation.

REFERENCES

- BARACHETTI, C., & LAVELLI, M. (2011), *Responsiveness of children with specific language impairment and maternal repairs during shared book reading*, «International Journal of Language & Communication Disorders», 46(5), pp. 579-591.
- BARWICK, M. A., COHEN, N. J., HORODEZKY, N. B., & LOJKASEK, M. (2004), *Infant communication and the mother-infant relationship: the importance of level of risk and construct measurement*, «Infant Mental Health Journal», 25(3), pp. 240-266.
- BIRINGEN, Z. (2008), *The Emotional Availability (EA) Scales Manual*, 4^o Edition. *Infancy/Early Childhood Version*, www.emotionalavailability.com.
- CONTI-RAMSDEN, G. (1990), *Maternal recasts and other contingent replies to language-impaired children*, «Journal of Speech and Hearing Disorders», 55, pp. 262-274.
- CONTI-RAMSDEN, G., HUTCHESON, G. D., & GROVE, J. (1995), *Contingency and breakdown: children with SLI and their conversations with mothers and fathers*, «Journal of Speech and Hearing Research», 38, pp. 1290-1302.
- CRESTI, E., & MONEGLIA, M. (1997), *L'intonazione e i criteri di trascrizione del parlato*, in *Il progetto CHILDES – Italia*, Vol. 2, Eds. U. Bortolini & E. Pizzuto, Pisa, Del Cerro, pp. 57-90.
- DURANTI, A. (2007), *Etnopragmatica: la forza nel parlare*, Roma, Carocci.
- FUJIKI, M., BRINTON, B., & CLARKE, D. (2002), *Emotion regulation in children with specific language impairment*, «Language, Speech, and Hearing Services in Schools», 33, pp. 102-111.

- FUJIKI, M., SPACKMAN, M. P., BRINTON, B., & HALL, A. (2004), *The relationship of language and emotion regulation skills to reticence in children with specific language impairment*, «Journal of Speech, Language and Hearing Research», 47, pp. 637-646.
- GIROLAMETTO, L., WEITZMAN, E., WIGGS, M., & PEARCE, P. S. (1999), *The relationship between maternal language measures and language development in toddlers with expressive vocabulary delays*, «American Journal of Speech-Language Pathology», 8(4), pp. 364-374.
- GIROLAMETTO, L., BONIFACIO, S., VISINI, C., WEIRZMAN, E., ZOCCONI, E., PEARCE, & P. S. (2002), *Mother-child interactions in Canada and Italy: linguistic responsiveness to late-talking toddlers*, «International Journal of Language & Communication Disorders», 37(2), pp. 153-171.
- JEFFERSON, G. (1987), *On exposed and embedded correction in conversation*, in *Talk and social organization*, Eds. G. Button & J. R. E. Lee, Clevedon, Multilingual Matters, pp. 86-100.
- LA PARO, K. M., JUSTICE, L., SKIBBE, L. E., & Pianta, R. C. (2004), *Relations among maternal, child, and demographic factors and the persistence of preschool language impairment*, «American Journal of Speech-Language Pathology», 13, pp. 291-303.
- LANDIS, J. R., & KOCH, G. G. (1977), *The measurement of observer agreement for categorical data*, «Biometrics», 33(1), pp. 159-174.
- MACWHINNEY, B. (1995), *The CHILDES Project: tools for analyzing talk*, Hillsdale, Erlbaum.
- OADES-SESE, G. V., & LI, Y. (2011), *Attachment relationships as predictors of language skills for at-risk bilingual preschool children*, «Psychology in the Schools», 48(7), pp. 707-722.
- OCHS, E. (1991), *Misunderstanding children*, in *Miscommunication and problematic talk*, Eds. N. Coupland, H. Giles, J. M. Wiemann, Newberry Park, CA, Sage, pp. 44-60.
- OCHS, E. (2006), *Linguaggio e cultura. Lo sviluppo delle competenze comunicative*, Roma, Carocci.
- PAUL, R., & ELWOOD, T. J. (1991), *Maternal linguistic input to toddlers with slow expressive language development*, «Journal of Speech and Hearing Research», 34, pp. 982-988.
- SCHEGLOFF, E. A., JEFFERSON, G., & SACKS, H. (1977), *The preference for self-correction in the organization of repair in conversation*, «Language», 53, pp. 361-382.
- SCHEGLOFF, E. A. (2006), *Interaction: The infrastructure for social institutions, the natural ecological niche for language, and the arena in which culture is enacted*, in *Roots of Human Sociality: Culture, cognition and interaction*, Eds. N. J. Enfield and S. C. Levinson, London, Berg, pp. 70-96.
- SKIBBE, L. E., MOODY, A. J., JUSTICE, & L. M., MCGINTY, A. S. (2008), *Socio-emotional climate of storybook reading interactions for mothers and preschoolers with language impairment*, «Reading and Writing», 23(1), pp. 53-71.
- VAN IJENDOORN, M. H., DIJKSTRA, & J., BUS, A. G. (1995), *Attachment, intelligence, and language: a meta-analysis*, «Social Development», 4(2), pp. 115-128.
- VIGIL, D. C., HODGES, J., & KLEE, T. (2005), *Quantity and quality of parental language input to late-talking toddlers during play*, «Child Language Teaching and Therapy», 21(2), pp. 107-122.
- WOULDE, J. V., & BARTON, E. (2001), *Specialized corrective repair sequences: shared book reading with children with histories of specific language impairment*, «Discourse processes», 32(1), pp. 1-27.
- YODER, P. J., WARREN, S. F., MCCATHREN, R., & LEW, S. (1998), *Does adult responsivity to child behavior facilitate communication development?*, in *Transitions in prelinguistic communication*, Eds. A. Wetherby, S. F. Warren, J. Reichle, Baltimore, Brookes, pp. 39-58.
- YONT, K. M., HEWITT, L. E., & MICCIO, A. W. (2002), *“What did you say?”: understanding conversational breakdowns in children with speech and language impairments*, «Clinical Linguistics & Phonetics», 16(4), pp. 265-285.