# Parent-child music therapy intervention with late talkers

Giulia Fedrigo

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Supervisor: Stine Lindahl Jacobsen

Department of Communication and Psychology

Aalborg University

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## AALBORG UNIVERSITY
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# Abstract

In this work a music therapy intervention with three families of late talking children is investigated with the aim to understand how a music therapy program could empower late talkers' parents in engaging their children to enhance their communicative and interactional skills.

Three mother-child dyads participate at the program that consists in 8 weekly sessions run by a music therapist that is also a speech and language therapist, at her private practice in Verona, Italy.

Children were diagnosed by local or private services prior to attend the program and an evaluation of their language and communicative skills was conducted pre to post intervention using parent's base questionnaires.

During the program improvisational and re-creative techniques were adopted to facilitate children' communication and participation, while parents, directly involved in the program, receive a model from the therapist on how to interact with their children using a responsive style (Girolametto & Weitzman, 2002).

Parents' active participation and initiative where analysed in order to understand parent's involvement in the program and the different patterns of interactions with the child. To understand if some form of transferability happened between the music therapy setting and the home context MEL Questionnaire (Gottfried, Thompson, 2012) was administrated pre to post intervention. A final questionnaire and a follow-up interview were conducted to understand parents' perceptions about the program and additional elements of transferability.

Findings and understanding were shaped and explored thought a hermeneutic stance that informed the way this qualitative work was conducted.

Findings underline a certain degree of transferability between the two settings that could affect the way music is used with the child in the everyday context and the pattern of interaction within musical activities. Parents' highlighted the positive effects of enhancing their responsiveness in interacting with their child and recognized in musical activities an occasion to positively interact and communicate with their children overcoming their language difficulties.

Understandings gained from this preliminary study aims to open a new discussion for the music therapy field on families of late talking children.

# Acknowledgement

# CHAPTER 1: INTRODUCTION

## 1.1 Problem field and relevant theory

I started working with late talking children in 2011 at the child neuropsychiatry department of our public health service in Verona. At that moment department' indications for the treatment of these children were more likely to follow the "wait and see" approach (Whitehurst and Fischel, 1994). When children were referred for speech and therapy services no treatment was provided but an assessment of the overall development of the child was carried out.

This approach often does not meet the needs of the families who are worried and desirous to help their children and furthermore the approach is a subject of discussion in the research field. Indeed, although some controversy between the "wait and see" approach and the early intervention strategy still exists, the importance of an early intervention seems reasonable for the exclusion of other neurodevelopmental problems (Buschmann, Joss, Rupp, Docktel, Blaschtikowitz, Heggen, Pietz, 2008) and to avoid consequences of the social-emotional functioning of these children (Carson, Klee, Perry, Muskina, Donaghy, 1998; Robertson and Weismer, 1999; Irwin, Carter, Briggs-Gowan, 2002).

A year later when I opened my private practice, I started to receive calls from parents of late talkers who had received a diagnosis of developmental language delay, but who was not offered a specialist's support from the local services. As parents are considered to have a "critical influence on the child and the child's language learning environment (Hemmeter & Kaiser, 1990, p.335) my intervention, as a speech and language therapist, always involve parents and follows the indications of the *interactive model* (Tannock, Girolametto, 1992).

It was in these situations and after graduating as a music therapist, that I started considering to use music in my intervention specially in situations where parents find it really hard to play games with their child and/or to shift from a directive attitude to a tutorial one that best correlates with positive language outcomes (Longobardi, 2001; Taylor et al., 2009). What often happen me to see in my clinical work, in fact, is that parents of late talking toddlers find hard to enjoy some toy play time with their children because of their child's behaviour, the lack of attention, and the difficulties they face when they propose games or activities that involve a communication exchange (i.e. symbolic games or shared book reading). Thus as playing with their child became a negative experience they often feel frustrated about them and questioned about their parenting skills.

Music therapy is eligible with this population as music environment seems to be "playful" and to promote social involvement (Colwell & Memmott, 2014) along with communication response,

sustained attention to activities and initiated responses (Standley, Walworth & Nguyen, 2009) that appear to be deficient in late talking children.

Although this specific population is not investigated in music therapy literature (Fedrigo, 2015) there is a conspicuous body of literature that describe music therapy intervention in families. Parent-child music therapy can be used to promote parent-child interactions (Nicholson, Berthelsen, Abad, Williams & Bradley, 2008; Nicholson, Berthelsen, Williams, & Abad, 2010; Abad, 2011; Jacobsen, McKinney & Holck, 2014) and improving parenting skills and attachment (Abad & William, 2007). Literature on family-centred music therapy (Oldfield 2006a; Oldfield &Flower 2008) provided some framework for the intervention.

Finally collecting parents' perception of musical activities would help understand if music as a tool and as a medium for communication and interaction is perceived as helpful from these parents.

## 1.2 Purpose

The aim of this study is to describe an intervention with families of late talking children in music therapy proposing an alternative at the traditional "wait and see" approach (Paul 2000; Whitehurst & Fischel, 1994). Results of this study aim to provide an initial basis for generating hypotheses about the impact of a parenting intervention on parents of late talkers that can be tested by future research.

## 1.3 Problem formulation and Research questions

Considering the important role of the parents in the early development of language and social relationship reported above the focus of my intervention is to empower parents of late talking children in using music as a tool to foster relationship with their child and help the development of communicative skills. Therefore my problem formulation is the following:

*How can a music therapy parent-child intervention empower parents of late talking toddlers to use music to enhance communicational skills and promote the participation of their child in a shared music activity?*

This problem formulation will be investigated towards 3 research questions:

**Research question 1: How** did parents took and active part during music therapy sessions and initiated some activities after therapist's instructions?

**Research question 2:** What was the impact of using a responsive style of interaction in the music therapy setting and how was this style perceived by parents?

**Research question 3: How has** the use of music at home with the child in the everyday life **changed** after the music therapy intervention?

## 1.4 Presumptions and pre-understandings

In this paragraph I describe presumptions and understandings of music, language, family and the clinical orientation that influenced my method and the analysis of this work.

### 1.4.1 Music and language

Music is often called a language. Its characteristics make it a universal language or as it was called by Kivy (2007) a true *lingua franca.* When we define music as a language however we have to clarify what does with mean for language. Music cannot express concepts, but it can evoke emotions in those who listen, perform or compose it (Ockelford, 2013).

Music can be a medium for establish interaction and communication, it is not a medium of concepts but a relational one that is a resource of every human being. Being musical is part of being human, a part that is intrinsically culturally related and promotes our development (Ansdell, 2014) with important consequences for us not only artistically, but emotionally and socially as well. (Hodges 2006, p. 51). Music can be used to make contact with those who find hard to communicate: communicative musicality (Malloch & Trevarthen, 2009) gave humans the possibility to communicate, experiencing and responding to music.

Music has a central role in the parent-child interaction, beginning at the very start of the life of a human being. Before words shape the meanings conveyed during an interactions, music, conveys emotions and could have a central role in the parent-child pattern of interaction and affect attunement (Stern 2010). Music can be a tool to re-establish connection between parent and child where other conditions may threaten the development of a healthy interaction between them. Music is here seen as a form of social play and as a tool for leaning, id est. a resource for the family to connect with each other and to promote relationship and personal development.

### 1.4.2 Family in therapy

Family is traditionally defined as "a group consisting of two parents and their children living together as a unit" (http://www.oxforddictionaries.com/definition/english/family).

While this definition is a good starting point, in modern society some family structures are excluded by this definition and a variety of different situations can be faced in our society, and in cultures different from the Western one. Rather than simply defining family by a dictionary definition, as a therapist and as a part of an evolving society, I see family for a group of people that share goals and values and have long-term commitments to one another. Culture and social system –as a family is- is continuously evolving (DeNora, 2013) and being open to the various

scenario that I could encounter help me as a therapist to get in contact with families regardless their structure or composition.

When I first meet parents is important for me to understand what are they feelings and they needs regard the child. Then their expectation and knowledge of the intervention are discussed and negotiated as well as their participation in the settings. Parents are considered an active part during the therapy as they represent the predominant social environment for the child and are the people that know him the best. Taking a socio-constructionist perspective they are the major contributors at the child development. I considered my intervention to be "ecological" (Bruscia, 2014) as the need of the child is considered in the context of the family, and the family is the focus of the work (Thompson, 2016).

### 1.4.3 Clinical orientation

What I bring to the session as a therapist is surely influenced from my dual practitioner experience as a speech and language therapist and music therapist. Knowledge on child language development and theories of natural language learning influenced heavily my approach in music therapy with these families.

Child initiative is sustained and meanings are given to his actions, adapting the socio-constructionist facilitators (Bonifacio & Stefani, 2010) to the musical interaction.

A sustainable orientation towards the therapy is applied as I ask families to continue doing music at home without me (Thompson 2014), applying the facilitations and the strategies adopted in therapy sessions during their interaction with their child at home.

### 1.4.4 Research and science

I believe science has the role to help us understand the world in which we live and interact with each other and with nature. If in nature there are circumstances that repeat themselves more and more time, what is unique about the social world is that its regards humans, which are complex, in continuous transformation and interrelated each other and with the context (made of nature and social world). What I think is important when I analyse a situation in a social dimension, is to understand nature and meanings, not seeking for a general "truth". The focus is on how things appear which is strongly influenced by my experience and my beliefs, and it is conditioned by my dual role in the research: as a therapist and as a researcher. When I describe I am interpreting with the filter of my knowledge, my culture and my beliefs, and even the words I can choose for describe are influenced by my understanding and influence the way I depict the reality. My pre-understanding and understanding are strongly related to each other in an *hermeneutic circle* where "our knowledge, language, or historical situatedness always (…) inform our perception of the world" (Ruud, 2005, p. 37)

Therefore, there is no objective reality: we form our understanding interpreting the world in a way that lead us to a relatively objective reality, never absolute (Ruud, 2005). I believe *empathy* has an important role not only in the clinical work, but also as a prerequisite for better understanding life as it is experienced by the subjects who live and act in there.

## 1.5 Overview of Thesis

| Chapter 1 | • Introduction and formulation of the research questions |
|---|---|
| Chapter 2 | • Theoretical background |
| Chapter 3 | • Design and method |
| Chapter 4 | • Findings for the three families |
| Chapter 5 | • Discussion and conclusion |
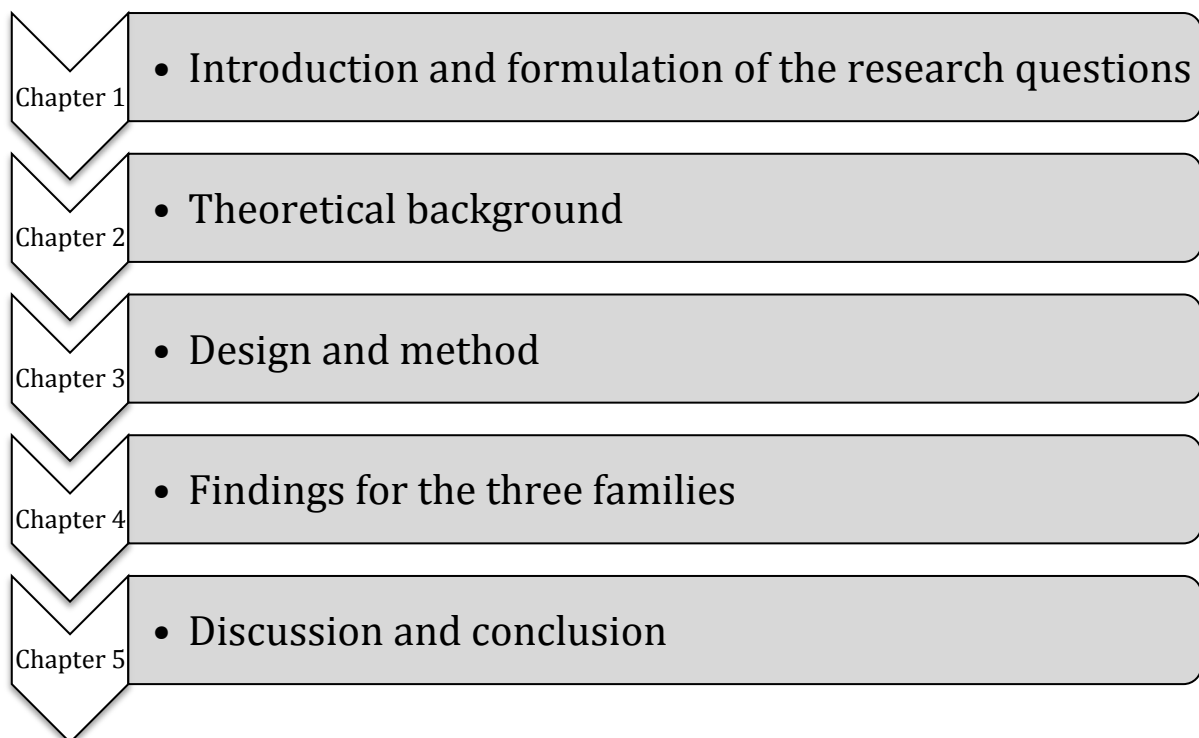
# CHAPTER 2: THEORY

In the following chapter I will present the characteristics of my population of interest, the language development theory that inspired my intervention, and the music therapy literature that describe parent-child interventions, as they represent a model for working with the parents in the setting.

## 2.1 Late talkers children: description of the clinical population

From zero to three years of age, a child normally develops the foundations of the language. These acquisitions do not require an explicit learning, the child indeed will learn being immersed in the language and engaging with it while communicating with people.

When this development is not progressing in this typical way, the child is facing a developmental speech and language disorder. Usually one of the reasons that young children are referred for evaluation is a delay in expressive language (Whitehurst and Fischel, 1994; Rescorla and Lee, 2000), which has to be considered a symptom more than a diagnosis. Expressive language delay in fact is often secondary to other disorders (e.g. hearing loss, neurological disorder or general intellectual disability, autism spectrum disorder) or experience such as severe deprivation, neglect or abuse (Rescorla, 2011).

For late talkers children the language delay, which can involve only the expressive language or be concomitant with a delay in receptive language, the speech disorder is defined as "primary" that is in the absence of other concomitant conditions. Hence late talkers children are children under 3 years of age that show a delay in the development of the language domain in the absence of other observable cognitive, sensory, or neurological disorders (Rescorla, 2005).

Prevalence of language delay among children at 2 years of age is approximately 15% (Desmarais, Sylvestre, Meyer, Bairati, & Rouleau, 2008; Horwitz et al. 2003; Reilly et al. 2007) and although around 70-80% of 2 years old will develop appropriate language skills in subsequent years (Whitehouse, Robinson, Zubrick, 2011), recovering spontaneously by the school age (Ellis & Thal, 2008; Domsch et al., 2012; Rescorla, 2011; Rice, Taylor, Zubrick, 2008), they continued to show significantly weaker language skills compared to their typically developing peers (Rescorla, 2002; Rice et al., 2008). A subset of late talkers then will continue to experience difficulties throughout their school years into adulthood (Roos & Weismer, 2008) being identified as specific language impairment.

Language and reading outcomes were also reported for late talking children at school age: Preston et al. (2010) found that late talkers performed lower on all language and literacy-related tasks, compared with early talkers.

## 2.2 Parent-child outcomes of a language delay

Considering language is inherently a social behaviour, it is important to notice that early difficulties in expressive language are linked with poor social-emotional adjustment (Fischel, Whitehurst, Caulfield, De Baryshe, 1989; Irwin, Carter & Briggs-Gowan, 2002; Paul & James, 1990). This could impact parent-child relationship, with an increased parental stress correlated with a decreased level of availability of support to the child (Desmarais et al., 2008; Horwitz et al., 2003). Observations during parent–child play interaction showed that late talkers were more depressed, more serious, less likely to request help, and less alert or interested in playing compared to their typically developing counterparts (Irwin, Carter & Briggs-Gowan, 2002), they are also more likely to show higher rates of anxiety and depression, withdrawal and sleep problems (Carson, Klee, Perry, Muskina and Donaghy, 1998), and to experience behavioural problems and poor social competence at the age of 30 months (Horwitz et al.,2003).

On the other hand, parents of late talking children, often faced difficulties in relating with their child not only because they have difficulties in initiating and sustaining a dialogue (Conti, Ramsden, Friel-Patti, 1983) but also because of the concomitant presence of negative behaviours (such as crying, hitting, throwing away) or attitude (timid, fearful, capricious) with the result that sometimes late talkers children are not able to satisfy the expectations of their parents about the social, emotional and intellectual domains (Fischel, Whitehurst, Caulfield, De Baryshe, 1989).

Interaction between parent and child is conditioned by the language delay in terms of quality of interaction (Vigil, Hodges & Klee, 2005). Parents of late talkers respond less often to their children, are more likely to initiate a conversation or introduce a new topic rather than responding to what their children say. They tend not to follow the child's leads resulting in a communicative style that is adult directed, and in a interaction that do not facilitate the language development of these children (Tannock & Girolametto, 1992).

## 2.3 Interactionist socio-constructionist models

Interactionist *socio-constructionist* and *socio-pragmatic* models, assumed that the language development, as well as the general development, is an *inter-individual* process, namely a process that begin and develop through the interaction between the child and his social environment.

Language is considered one of the main *cultural artefact* (Vygotskij, 1934) that is a symbolic tool that is shaped by the cultural context and it is used as a "mediator" of the social interaction in the everyday life.

Adults have an important role in sustaining the communicative and linguistic development of the child, and use different *facilitators* to help the child during this process (for example talking of objects/actions/events that are the focus of child's attention or talking of things that are of significant interest for the child). In the first phase of the lexical development we can identify the following social facilitators (Bonifacio & Stefani, 2010):

| *Motherese* | • Linguistically semplified speech register<br>• High pitch and exaggerated intonation<br>• Frequent repetition<br>• Restricted vocabulary directly linked to the experience of the child |
|---|---|
| *Format* construction (Bruner, 1985) | • Sequences of organized events (e.g. "peekaboo" game)<br>• Language strutures and sustains attentions and actions<br>• Complexity incrementation follows the child's increment of communicative skills |
| Semantic contingency | • Adult's replica/comments are semantically correlated to previous child espression/beahviour<br>• The purpose is to extend the communicative exchange keeping up the interest and providing new learning opportunities |

Adults/parents are the principal developer of social contexts within which the processes of acquisition of language occurs, with the child as an active protagonist, and the adult as the main support for child development.

These models inform the way I developed my model of intervention, giving parents an important role in encouraging and sustaining their child development, which it translates with the need to empower parents that are facing difficulties in this process due to a delay in their child language development.

*Format constructions* and *semantic contingencies* constitute two facilitations that can be adopted in the music therapy settings, and applied at the musical exchanges between adult and child.


## 2.4 Naturalistic Language Teaching (NLT): Parents' role in communicative and linguistic development

One of the environmental factors that mostly influence the language development is the pattern of child-addressed speech (Hart, 1991; Hemmeter & Kaiser, 1990; Warren & Kaiser, 1986).

Caregivers are considered to have a "critical influence on the child and child's language learning environment" (Hemmeter & Kaiser, 1990, p. 335) and patterns of child-addressed speech can either support or limit language learning opportunities (Nelson, 1973). For this reason parents have an important role in sustaining child's language development.

Within the various methods of language instruction the naturalistic ones (Fey, 1986) are those in which parents are actively involved in the process of supporting child development through everyday activities that could include toy play, book reading, and more generally, all the naturally occurring situations that evoke the child's interest. The focus of the Naturalistic Language Teaching (NLT) is to follow the child's lead in terms of stimulating interest and providing a "natural enhancer" (usually the object of interest to the child). NLT approaches work with the child in his or her natural setting and usually follow the child's lead or interest, not in terms of language skill goals, but in relation to toys and other objects of interest to the child (Peterson, 2004). The role of the parents is to prompt, model and arrange the environment in order to promote child participation in the communicative exchange being supportive and responsive to the child.

Toy play activities are one of the most frequently occurring contexts for parent-child interaction (Fromberg & Bergen, 2006) that is also associated with language learning in preschool-age children (Stich, Girolametto, Johnson, Cleave, Chen, 2015).

Parents' involvement in children's play is predictive of numerous positive outcomes. When parents are involved play sessions last longer (Slade, 1987) and children are more likely to engage in higher-quality independent play sessions immediately after playing with a parent (Alessandri, 1992). Parents' communication style during toy play can influence child's receptive and productive vocabulary (Power, 2000) and stimulate higher levels of curiosity and creativity when it is rich and accompanied by a high quality of mother-infant interaction (Schaefer, 1989). In contrast, too directive parents can lead to poor language outcomes and less competent play behaviour (Power, 2000).

Toy play together with shared book reading is often a context of intervention for children with language impairment (Crowe, Norris, & Hoffman, 2004; Dale, Crain-Thoreson, Notari-Syverson, & Cole, 1996; Kaderavek & Sulzby, 1998),

Shared book reading is also positively related with concurrent and long-term favourable outcomes among children (Senechal & LeFevre, 2002; Senechal, LeFevre, Hudson, & Lawson, 1996; Snow, 1983). Children who are exposed to book reading are more likely to develop language and literacy skills earlier and easier (Fletcher & Reese, 2005), but those outcomes are still related to the way in which parents engage with their child while reading (Fletcher & Reese, 2005; Snow & Goldfield, 1983; Whitehurst et al., 1988).

In relation to my population it is also important to notice that whilst toy play is more child directed and may positively influence children's motivation to engage in play-based interactions (Kaderavek & Justice, 2002), some children with language impairment do not enjoy book reading and show little interest in this activity (Kaderavek & Sulzby, 2000; Kaderavek & Justice, 2002; Sulzby & Kaderavek, 1996).

Based on my clinical experience I can however say that a directive style of parents' interaction is often associated with toy play activities. A directive interaction style, as described by Tannock (1988), is one in which the adult selects the topic of conversation, uses commands, test questions and tends to dominates the conversation. This interaction style have been linked with slower growth rates for children's cognitive-language and social skills (Hart & Risley, 1992; Landry et al., 1997; Snow, 1983; Tomasello & Farrar, 1986) and a possible negative effect on child language development (Barnes et al. 1983; Nelson 1973; Vibbert & Bornstein 1989).

In contrast a responsive style, in which caregiver behaviours meet the child's interests and communicative attempts (Girolametto & Weitzman, 2002), could provide many opportunities for contingent responses to children's communicative attempts (Girolametto & Weitzman, 2002; Herbert et al., 2004), support young children's cognitive skills (Smith, Landry, & Swant, 2006) and language development (Tamis-LeMonda et al., 2001), and foster a secure attachment style between mother and child (DeWolff & Van Ijzendoorn, 1997; Smith et al., 2006). This is particularly important as it can influence the way of intervention with this population and our goal as therapist when we aim to empower these parents in their relationships with their children

## 2.5 Music therapy with families

Literature about music therapy with families influenced the way I developed my approach when I work with children and their parents (or caregivers) in the therapy setting. Including parents in the sessions could have different advantages as reported in literature: from improving parenting skills, to promoting a family well being, and having positive child-development and behaviour outcomes (Dunst, Trivette, & Hamby, 2007). Music and play activities can promote child language development, listening skills, cooperative social skills and reciprocity, and positive parenting (Beaton, 1995; Fisher, 2001; Galliford, 2003; Ilari, 2003; Levinowitz, 1999; Nicholson, Berthelsen, Abad, Williams, & Bradley, 2008; Standley, 2001), and can also impact parent's responsiveness and infant social toy play in a positive way (Walworth, 2009). Language outcomes, both in the expressive and listening domain, as well as social skills, and the

achievement of a positive relationship with parents are often part, if not the major focus, of the intervention with late talking children.

Music therapy with families is an area that is influenced both from music therapy and family therapy. Family therapy has existed since the 1950s, as an alternative to the traditional psychoanalytic methods and has is focus not on individuals but on their lived context as a family, on the intra-family space and, more recently, also on the extra-familial, the societal discourses, that is made by the community context that influences the family life (St. George & Wulff, 2016).

In music therapy literature, family centred approaches substantiated their powers in promoting, maintaining or restoring physical and mental well-being and health (Nemesh, 2016). The family is seen as a unit: family challenges and needs are addressed considering family resources and strengths rather than individual ones (Pasiali, 2013).

Family music therapy at its beginning was an approach adopted especially with families that had children with special needs (Kirkland, 2013). The focus of the therapy was primarily on the child's needs and then on the family relationships and parents' difficulties (Oldfield, Bell, & Pool, 2012).

In the last decade the interest in this field had increased markedly, as confirmed by the growing of literature and research on family-music therapy (Cassidy 2015).

Settings in which family music therapy with children is described in literature are various: from neonatal care (Haslbeck, 2014a, 2014b; Loewy, 2015; Shoemark & Dearn, 2008; Whipple 2000) and paediatric medical settings (Abad, 2003; Bailey, 1984; Baron, 2016) to child psychiatry (Oldfield, 2006a; Oldfield & Flower, 2008), community (Nicholson, Berthelsen, Abad, Williams, & Bradley, 2008; Abad 2011) and home settings (Thompson, 2012).

The population to which the intervention is addressed is various too: at-risk families (Abad, 2011; Cunningham, 2011; Nicholson et al., 2008; Jacobsen, McKinney & Holck, 2014; Kelly, 2011), families with premature infants (Haslbeck, 2014a, 2014b; Lai, Chen, Peng, Chang, Hsieh, Huang & Chang, 2006; Teckenberg-Jansson, Huotilainen, Pölkki, Lipsanen & Järvenpää, 2010; Whipple, 2000), families of children with autism spectrum disorder (Thompson, McFerran & Gold, 2014; Thompson 2012; Thompson & McFerran, 2015) or disabilities (Nicholson et al. 2008; Warran & Nugent, 2010), children with terminal illnesses and their families (Lindenfelser, Hense, & McFerran, 2012) and foster and adoptive families (Drake, 2011; Tuomi, 2016).

These works highlights music therapy's potential power in promoting family well-being and a positive family functioning. Therapeutic outcomes can include: *(see Image 1)*
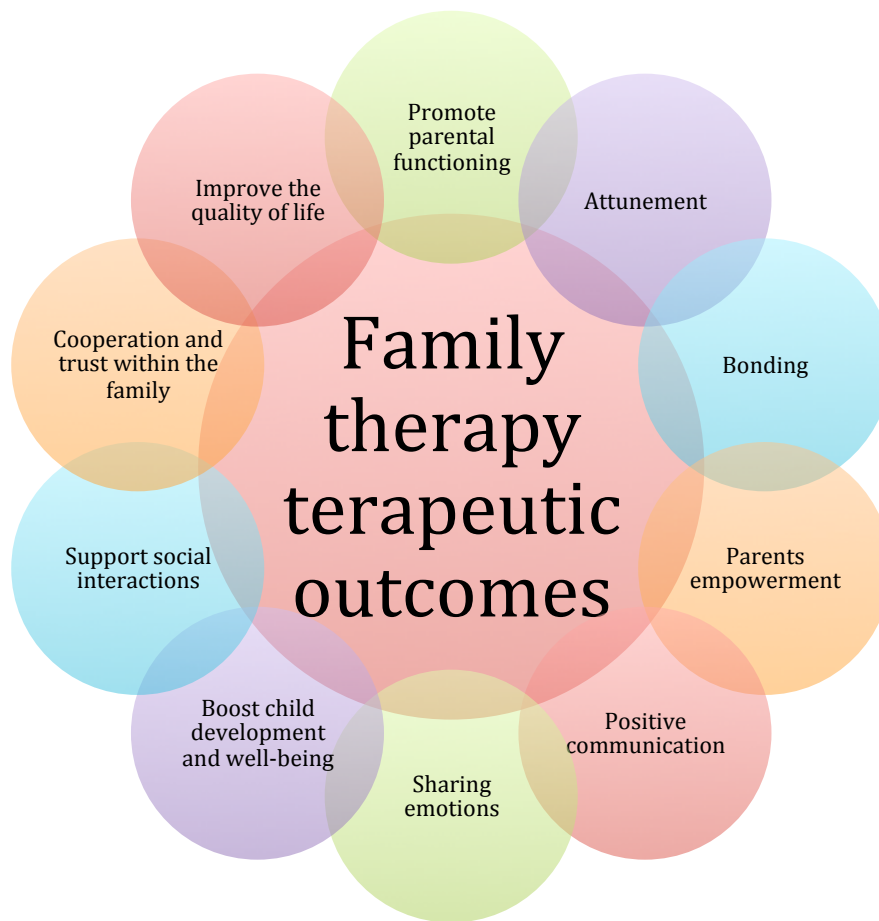
Image 1. Family therapy therapeutic outcomes

A family-cantered approach can have positive effect on parental functioning promoting positive parent-child relationship (Nicholson et al. 2008; Nicholson, Berthelsen, Williams, & Abad, 2010; Jacobsen et al., 2014), attachment (Tuomi, 2016), reducing parental stress (Jacobsen et al. 2014; Teckenberg et al. 2010) and improving parent-infant interaction and bonding (Haslback, 2014; Trolldalen, 1997), while at the same time can have positive outcomes for the child development (Abad, 2011; Trolldalen, 1997; Nicholson et al. 2010) or well-being (Teckenberg et al. 2010; Haslback, 2014).

Communication and attunement between parents and child can also be an important focus of the intervention (Oldfield et al. 2012; Thompson, 2012; Thompson & McFerran, 2015) as well as to increase or create a network of social support for those families at risk of marginalization (Abad, 2011). In music therapy, improvised music making and playful musical exchanges can facilitate family interaction (Oldfield et al. 2012) and reveal family strengths that were otherwise hidden (Jacobsen & Killén, 2015).

What is common through the field of music therapy with families, is that the goals of the therapy are on the whole family group while contemporary, specific individual goals and needs can be addressed within the family context.

The major aim of the intervention is often to create a safe nurturing place that enables family and individual development and growth (Nemesh, 2016).

Improvisational methods are often used as they offer the basis for the communication towards the mutual attunement, mirroring, matching, dialoguing and empathic reflection. Those characteristics are particularly relevant inasmuch they represent the basis of the development of primary infant-parent relations (Stern, 1985; Bowlby, 1982). Mutual music making can in fact have an important role in achieving inter-subjective contact and attunement (Stern 1985, 2010), indispensable for providing a safe ground for the child's development and for the creations of a sense of self and connection to others (Trondalen & Skarderud, 2007).

In developing my approach in working with families was extremely important to understand the family as a resource in which the focus on the child has to be considered in the light of his family context (Thompson, 2016). It was also important to understand how different music therapy techniques could be adapted at my context of work, shifting between re-creative and improvisational models as required by the needs of the dyad in each precise moment.

# CHAPTER 3: METHOD

This research study explores a parent-child music therapy intervention with late talkers children and their parents. Method for carrying out the study is described in this chapter.

## 3.1 Design

A multiple case study design is here utilized to analyse, through the data collected in video recordings, questionnaires, and a final interview, parents' involvement during the sessions, parents' comments and the use of music with the child in everyday context. In doing so I embrace a hermeneutic phenomenological approach where the research is seen as a lived experience in which the researcher has to attune towards the nature of the phenomenon while learning to "see" pre-reflective, taken-for-granted and essential understanding, through the lens of his/her pre-understanding and prejudices (Van Manen, 1990). Understanding is always a process that is partial and particular to the experiences from which the interpretation was formed.

The aim itself of my work is to highlight details and aspects of the experience that I may be taken for granted in the everyday work as a clinician, with a goal of creating meaning and achieving a sense of understanding (Wilson & Hutchinson, 1991).

While I was writing up this work it often happened to me to go back in my footprints and change my perspectives, as well as the questions I was answering through this work, in light of the knowledge I was gaining and the findings I was collecting. This way to operate found its roots in the hermeneutic circle that was used during this work to expand the possibilities of my understanding.

Every case here is considered per se, as each of the 3 families presents different and unique characteristics, but the families are also compared across in terms of differences between parent-child pattern of interaction, participation and parent's final comments.

## 3.2 Population

Families invited to participate in the program, where those with a child who was not developing expressive language within the normal range of development, in absence of major diagnosis. Children in these conditions are considered "Late talkers" (Rescorla, 2005).

The criteria for recruiting families were that:

- Children must be under 4 years of age;

- Children have to present a delay in language development certified by a phoniatrist[1];
- Children have to score under the 10th percentile at the MacArthur Questionnaire;

Two families were recruited by a private phoniatrist, which works in equipe with the music therapist, and one from a phoniatrist of the local public health service.

Children' age at the beginning of the program were between 27 and 36 months. For all three families, the parent who took part at the program was the mother. Fathers were not directly involved in the program.

Each case is described using the information collected through the questionnaire given to the families at the beginning of the program (MacArthur questionnaire, ASCB questionnaire, MEL questionnaire) and the child's profile as emerged by the therapist observation during the first session of the program. I could have assessed the children's language and communication skills using more specific assessment tools but I decided to use parent's standardized questionnaire to minimize the influence of my intervention and to make this approach cost and time saving and replicable for music therapy colleagues that are not familiar with language assessment tools.

The three questionnaires provide the information that are useful in creating a picture of child's language skills, interaction and use of music in the everyday life.

## 3.3 Procedure

The program, in which 3 families took part, lasted 8 weeks. A weekly session was planned meeting families' needs. I run the program as a music therapist, with my dual practitioner as a speech and language therapist, in my private practice in Verona.

It was built on the inspirations gained from the field of music therapy with families, treated in chapter 2.5. Re-creative and improvisational music therapy techniques are used as a way to promote joint attention, turn-taking, listening skills and to stimulate children speech production and vocabulary development as well as to diminish negative or non-involved behaviours in the child. The aim of the intervention is to empower parents in engaging their children in musical activities designed to be supportive of the development of communicative and expressive language skills. Mothers hence receive instructions at the end of each session on how to use the

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[1] A phoniatrist is a physician who received a medical training in the diagnosis and treatment of voice, swallowing and language disorders, which is common in many European countries (Sataloff, 2006). In Italy he works in close contact with speech and language therapists providing diagnosis and treatment indications. SLT in Italy cannot provide a treatment if a diagnosis is not present. (Codice deontologico Federazione Logopedisti Italiani F.L.I., 2012)

presented activities in the everyday life, how to modify them to suits the child needs or interests, and in how to play with music at home. Parents also received materials at the end of the sessions in form of books and songbook with the lyrics of the song played during the session written in Widgit Symbols[2]. An example of songbook is attached in *Appendix i.*

A behavioural stance (Wigram, Pedersen & Ole Bonde, 2002) in which music activities are fun and flexible, but organized, is adopted to facilitate change in parent and child engagement during the sessions.

Two of the three social facilitators described by Bonifacio & Stefani, (1997) were adapted and used during the music therapy intervention: *Format constructions* (Bruner, 1985) and *semantic contingency.* I provide repetitive format during the interaction or I create new one on the child initiative, and reinforce child interaction responding to him and giving him contingency. This help in redirect child attention and give meaning to their actions, recognizing and including them in another activity that is positive and valuable for him and for his parents, with good outcomes for language.

### 3.3.1 Role of Music

Music, especially when presented in the form of songs, was used as a way to engage the child in a repetitive and fun activity that can sustain the child language and communication development. Depending on the development of language and communication skills of the child, music was also used as a way to promote shared affect, attention and relatedness (Holck, 2004; Kim, 2006; Kim, Wigram, Gold, 2008; Wigram & Elefant, 2009). Music therapy techniques were chose for their combination of structure and unpredictability that are similar at what is found in social play (Kim, Wigram, Gold, 2008; Wigram & Elefant, 2009).

Music had an important role in redirecting child attention, prompting their language and communicative skills, and in giving meaning to their actions. "Negative behaviours" were recognized in a way that did not punish the child but helped him in transforming them in another activity, into something positive and valuable from their parents. Music was offered as a resource to the family, an alternative way to connect and communicate between parent and child (Thompson, 2016)

Music was then used as a form of social play and as tool for learning and as a cue for achieving behavioural changes in both the child and the parent (Wigram, Pedersen & Ole Bonde, 2002).

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[2] Symbols are images that are used to support text, making the meaning clearer and easier to understand. They provide a visual representation of a concept.

### 3.3.2 Role of therapist

When I was in the settings with parents, I interacted with both the parent and the child but having the child focus in my mind. The parent was considered an active participant during the session but I recognize my "leading role" while I was responding to the child. This leading attitude was adopted as a way to show parents how to manage difficult situations or improving child attention and participation nevertheless language responses, using different patterns of interactions. Parent's needs related to the child were addressed providing an appropriate support, who took into considerations the important resources of the parent and the challenges and circumstances that she was facing in that moment, balancing parent's participation with an adequate support (Dunst, Trivette, Davis, Cornwell, 1988; Dempsey et al. 2009; Thompson, 2016)

An important part of the session was represented by the discussion with parents that happened in the last 5/10 minutes of each session. As a therapist I share with them my observation, advices and I responded at parents' comments and questions. This part was fundamental to understand parents' feelings and helping them to use the presented activities independently at home.

### 3.3.3 Goals and purposes

| Program goals and purposes | Help parents understand their and their child's interaction style, giving them cue on how they can foster their child language skills |
|---|---|
| | Improve child's language pre-requisites and language skills |
| | Empower late-talkers parents outside the clinical setting in using music as a tool to engage and communicate with their child |

### 3.3.4 Techniques and activities

The following table *(table 1)* summarizes the music therapy techniques and activities adopted during the program dividing them for method and describing the employed variations on the basis of Bruscia (2014) description of methods in music therapy. Activities, as conducted during the program are described in the 4th column.

| | Variation & Description (Bruscia, 2014) | Activity in the setting | Objectives |
|---|---|---|---|
| **Re-creative** | *Vocal re-creation*<br><br>The client uses the voice to re-create pre-composed material | Parent and child sing an existing song suggested by the therapist. | -Shared attention<br>-Stimulate the repetition of sounds<br>-Stimulate child's active participation<br>-Give cues to parents<br>-Prompting the production of sounds or gesture<br>-Framing some parts of the session (Ciao ciao, Suoni tu)<br>-Turn taking (Suoni tu)<br>-Stimulate the repetition of sounds/lyrics<br>-Stimulate the use of gestures to recall a song of part of it |
| **Improvisational** | *Instrumental Nonreferential:*<br><br>The client improvises on a musical instrument without reference to anything other than the sound or music | Free instrumental improvisations therapist guided or where the parents/child improvises by himself. Improvisations could be a duet (parent+child/therapist) or a trio (parent+child+therapist) | -Re-directing child attention<br>-Turn taking<br>-Focus on eye contact<br>-Shared attention<br>-Stimulate child's active participation<br>-Stimulate parent's active participation<br>-Response to joint attention |
| | *Body improvisations:*<br><br>The client improvises by making various kinds of percussive body sound | Parent/child improvises using their body (clapping) while the therapist is playing/singing or during a free improvisation. Improvisations could be a duet (p+c/t) or a trio (p+c+t) | |
| | *Mixed media improvisation:*<br><br>The client improvises using voice, body sounds, instruments, and/or any combination of sound sources | Parent/child improvises using different sources while the therapist is playing/singing or during a free improvisation. Improvisations could be a duet (p+c/t) or a trio (p+c+t) | |

Table 1. Music therapy techniques and activities adopted

### Songs

In the re-creative method adopted songs played a major role during the program. I presented songs with the intention of involving both the parent and the child in the action, having them as active participators, reproducing sounds and gestures as presented in the song.

I divide the songs proposed in two different types: *action songs*, that involve gesture/vocal/or instrumental participation, and *songs with props,* that involve the use of non-musical material as puppets, images, books or lyrics written in Widgit symbols.

**Action songs:**

> ***Queste son le mie manine*****:** Use of hand gestures to accompany the lyrics of the song
> ***Le ruote del bus*****:** Use of hand gesture/body movements to accompany the lyrics of the song
> ***Ciao ciao*****\*:** Hello songs to frame the end of the session (vocal participation + gestures)
> ***Suoni tu! *\*:*** Hello songs to frame the beginning of the sessions (instrumental participation)
> ***Stella stellina*****:** Goodnight song to "send puppets to sleep"
> ***La tartaruga Tina*****\*:** Use of hand gesture and vocal sounds to accompany the lyrics of the song

**Songs with props:**

> ***Whisky il ragnetto*****:** Use of puppet to dramatize the lyrics, Use of images to recall the narrative of the song, lyrics in symbols to recall lyric's words
> ***5 scimmiette*****\*:** Use of puppet to dramatize the lyrics, Use of images to recall the narrative of the song, lyrics in symbols to recall lyric's words
> ***Le 5 paperelle*\*:*** Use of puppet to dramatize the lyrics, lyrics in symbols to recall lyric's words
> ***Nella vecchia fattoria:*** Use of puppet to dramatize the lyrics and recall animal's voices
> ***La storia del serpente*****:** Use of puppet to dramatize the lyrics and play "hide and seek" game
> ***Una carta*****\*:** Use of images to recall different sounds

Table 2. Types of songs

Songs were chosen on the basis of the following characteristics:

- They have to be simple and repetitive in the lyrics to facilitate child vocal participation and lyrics recall;
- Contain words or onomatopoeic sounds easy to reproduce at the end of a strophe or between two strophes to give child the opportunity to end the strophe with the sound/word
- Offer ideas for creating gestures or dramatizations with puppets.

### Improvisation

Improvisation was used to meet the child where they were and following their lead. This was particularly adopted when the child was difficult to engage or showed negative

behaviours (closeness, opposition, physical or verbal negative responses) to encourage interaction between therapist, parent and child.

In some moment of the therapy, improvisations were child-lead, that is that the child initiate an improvisation and parent and therapist take part at it mirroring the child, matching him or extemporising on his production. In some moment, as a way to take the lead back and to carry on the improvisation the therapist redirected it by introducing a change in tempo, dynamics, tonality, rhythm or style (Bruscia, 1987).

## 3.4 Data collection

The approach for answering my research questions is explained in this section. Data collected for the analysis for the 3 families who participated in the program consisted of recorded videos, pre to post responses at the MEL questionnaire and final questionnaires and follow-up interviews. Additional data were collected pre to post intervention through two parent-based questionnaires that assessed the language and communicative skills of the children: the MacArthur Questionnaire and the ASCB questionnaire (Bonifacio, Girolametto, 2007). Through the MacArthur Questionnaire the vocabulary of these children was assessed, in the receptive and expressive domain, prior and after the program, as well as the socio-conversational abilities that were assessed with the ASCB questionnaire. Results obtained from these questionnaires were not considered as a part of the analysis but served to give a picture of the child abilities pre to post the intervention.

### 3.4.1 Use of the data to answer research questions

**Research question 1,** that investigated the parents' participation and initiative during the sessions, is explored on the results of the video analysis of all the sessions. Parents' active participation and initiative are the two major domains used to code parents' actions during the video analysis. For each domain a list of sub-domain is considered (see Appendix ii) as a source to understand how those three parents participate in music therapy, and which subdomains appear more than others.

Particular emphasis is then given to the relationship between child's attitude (behaviour and communicative style), and type of parent's participation (active participation following the therapist vs. parent's initiative).

**Research question 2**, seeks information on the impact of using a responsive style of interaction with the child in the music therapy setting, and through data gathered with parents' final questionnaire and follow-up interview, collected parents' perception on the adoption of this style.

Lastly, **research question 3**, aims to understand if some form of transferability to the everyday life happened after the intervention, in particular if the way music is used in everyday context has change between pre to post intervention. This question is answered comparing the results of the MEL questionnaire (Gottfried, Thompson, 2012) and adding parents' comments collected with the final questionnaire and the follow-up interview. Results are interesting as they can support the program aim to empower parents in using music and music activities more to interact with their children in the everyday life.

### 3.4.2 Video collection and analysis

All the sessions for the 3 families involved in the project were filmed with a steady camera. A total of 22 files were analysed (8 files for case #1, 7 files each for case #2 and #3). The procedure for the video analysis followed these following steps:

a) *Observation of the patterns of participation of the parent and child among the all sessions.*

One dyad (case #1) was analysed looking through all the sessions to collect information about the parent and child participation during the different activities. All the session were observed in order to obtain a picture of all the possible conditions that happened in the context and that could help respond my research question. Information was collected and reported in a diary with notation of time in the sessions and a description of the actions *(see Appendix iii).*

b) *Generation of codes*

Results obtained from the first analysis were coded in 3 main domains (parent's active participation, parent's initiative, child's participation) and 23 subdomains *(Appendix iii).*

c) *Analysis of all the video material*

The coded 'unit' is based on 'momentary events' (Robson, 2011, p.337). Every time an event occur the observer mark a sign with a pencil on a paper checklist that contains all the selected codes *(Appendix iii)* for example: if the parent starts to play on a drum following the therapist play (Parent Starts playing following the therapist play, code: AP.P) an event was tallied. The parents can hit the drum continuously

and it is considered as the same event, but if the parent stops, to start again later, a second event is marked. The length of the event was not counted as this was not relevant for my research question.

All the videos were analysed on 2 following days to reduce the risks of changing the observer eye and increasing the chance of incorrectness.

d) *Information gained from the results*

Results were transcribed on a excel file that contains 3 folder, one for each case.

All the events per subdomain across the sessions were summarize to obtain the number of time a particular behaviour occurred during the program. Percentages of behaviours were also calculated per specific domain regard parents participation (Active participation vs. parent initiative) and subdomain (considering all the codes for the 3 domains).

The sum of all the elements belonging to the same domain session per session, was then calculated to obtain the tendency toward a specific behaviour to occur while the sessions went on.

### 3.4.3 MEL Questionnaire

The' Music in Everyday Life' (MEL) questionnaire (Gottfried, Thompson, 2012) collects information regarding parents' use of music in daily life, in a directive and interactive way with their children. MEL questionnaire was developed especially for the TIME-A international study, and administered at families with children in the autism spectrum disorder participating at the study.

The questionnaire is composed of 8 questions to be completed by parents both pre and post intervention, in order to see if any difference in the use of music in everyday life appear after the treatment.

Question 1-4 investigates the frequency of different interactive ways to use music that parents might have done in the previous week: parents have to tick the right frequency on the basis of a five-point scale (not at all – one day of the week – a couple of days of the week – almost every day – every day), in question 5 the same scale is use to rate the moments a member of the family has might played an instruments in the presence of the child. These initial 5 questions also investigate the nature of the experience for the child (very positive experience – somewhat positive experience – neither a positive nor a negative experience – negative experience) and ask an open question regarding the nature of the experience for the parent

Question 6 concerns the frequency of listening to eight different types of music, while question 7 concerns the frequency of each of nine daily uses of music; both are answered on a five-point scale.

Question 8 is an open one, in which parents are invited to add any other related comments regarding their child's response to music.

MEL questionnaire has been through a reliability analysis as part of a PhD thesis (Gottfried, 2015) and confirmed as a scale with reliability in the assessment of the use of music in everyday life in families with children with autism.

Information collected with the MEL questionnaire (Gottfried, Thompson, 2012) are compared between pre to post intervention and discussed in a qualitative way, describing the changes between the two phases and reporting parents' comments. Data triangulation with parents report collected on the final questionnaire and during parents' interviews is also adopted to give strength and ensure validity of the obtained results.

### 3.4.4 Final questionnaire and follow-up interview

At the end of the program a final questionnaire and a face-to-face follow-up interview was conducted with the parents involved in the program.

**Final questionnaire**

The final questionnaire is composed of 11 self-completion open-ended questions.

The first 3 questions concerns parents perception of the musical activity during the sessions and at home, whilst questions n. 4-5 investigate the effects of the program as perceived by the parents. Questions 6-11 collect parent's perspectives of the program. The questionnaire as presented to the families is visible in *appendix iv.*

The questionnaire was emailed to the parents after the last treatment session. Only parents that actively participated at the program were invited to respond (in this case the three mothers).

**Post Questionnaire follow-up interview**

The follow-up interview was scheduled a week after the end of the program, in a therapist-parent session where also the questionnaires sent via email were collected.

This post-intervention interview aims to help incorporate participant's perspectives into the findings (Robson, 2011), expanding the responses collected with the final questionnaire. A semi-structured interview was conducted on the basis of the self-

administrated questionnaire in a face-to-face modality. No other questions were added to those listed in the questionnaire.

This type of structure was decided as it offers the possibility to follow up interesting responses and investigate underlying motives (Robson, 2011). During the interview I used probes to get the parents expand on a response or to explain the meaning of my enquiry adding some examples at the questionnaire's questions. When I interviewed them I tried to be as neutral as I could to avoid influencing parents' responses or pushing them toward a specific direction. The interview was fully transcribed live during the session and recorded in order to have no dispersion of data.

Since the reliability and validity of open-ended response depends on whether parent's interpret and respond to the question in the same way as the researcher intended, data collected with questionnaire and interview are linked together (as visible in Chapter 4).


## 3.5 Reliability and validity

Reliability in flexible designs is about the consistency of the data collected which required the researcher to be "through, careful and honest in carrying out the research" (Robson, 2011, p.159), whilst validity concern with the accuracy, correctness and truthfulness of the data collected.

To ensure validity and reliability in my work I tried to set up a 'good' flexible design (Robson, 2011, p.132):

- Using multiple data collection techniques who allow me to combine data from different sources and discuss my findings using data triangulation;
- Confessing who I am and the way I perceive the world;
- Keeping the therapist's role and the researcher's role separated by initiating the research after running the program as a therapist to avoid bias and influencing the results;
- Given an accurate description of the steps taken during the study and trying to be clear in my writing;
- Framing the study within the assumption and characteristics of the flexible design approach.

During my data collection I also utilized some strategies to ensure validity in the collection of data using a member check procedure (in form of a follow-up interview) in collecting findings from my final questionnaire and using a detailed described coding scheme for my video analysis

which is divided in clearly defined categories *(Appendix iii)* that help provide information relevant to the research question. Coding scheme was developed to be focused on selected aspects, objective ("requiring little interference from the observer") and explicitly defined and exhaustive, as suggested from Robson, 2011 (p.335) to be straightforward and reliable in use.

It is also important to add that with my study I do not aim to find a general truth, but to better understand the field in study and the implications of my findings under the light of previous knowledge that informed my theoretical background.

## 3.6 Ethics

Participants at the project were informed about the program and the study prior to the beginning of it. A module that fully describe the program content and the study steps were shared with the families by email and commented and explained during the first meeting with the parents. Both parents had to sign their consent for using their data and the audio-video recording obtained during the sessions for educational and study purposes.

During the 8 weeks of program, families were free to attend other kinds of therapy with their child, but it was asked them to share this information at the beginning of the program or during it, if therapies were added along the way.

Participants known they were attending a experimental program, that was delivered them for free, which was the focus of the present thesis at Aalborg University and that all the material produced for it, would be in English language and not translated into Italian.

Names of the children who participated at the program are kept anonymous using a pseudonym for them to preserve their identity.

A copy of the consent given to the families is translated in English and visible in *appendix v.*

# CHAPTER 4: FINDINGS

In the following chapter the findings of the study are shown. Findings for the three families are displayed separately in paragraph 4.1, 4.2 and 4.3. For each family a brief presentation of the dyad is given, with a particular focus on the child language and communicative skills, on the result of their language assessment, and the observation of the dyad that I did during the first session of the program.

Further, findings gathered from the video analysis, the questionnaires and the follow-up interviews are displayed and then summarized in the last part of the paragraph.

In the video analysis sections percentages of parent behaviours (Active participation vs. parent initiative) are displayed using a cake graphs to best illustrate the prevalence of each behaviour in each dyad; histogram graphs were chosen to show the percentage of each subdomain in parents' participation to better understand which kind of participation was predominant for each mother and lately, a lines graphic is used to illustrate the tendency that the two domains scored among the sessions as resulted on the second analysis, and the tendency observed in child's participation.

Children' participation is then illustrated using cake graphs that show the percentage of each subdomain as appeared during the whole program.

The responses obtained at the questionnaires and at the follow-up interviews are shown using tables (*table 4, 5 and 6*) so the answers collected were not manipulated if not for the process of translation. In the first column of each table is reported the questionnaire questions, in the second column are the answers at the questionnaire (identified by a "Q" sign on the third column) and at the follow-up interview (in italic, identified by a "I" sign in the third column). During the follow-up interviews parents expanded some of the questions proposed in the questionnaire, adding a greater number of information and enriching them adding some example at their reflections. In presenting the three cases the name of the child is followed by the label "mother" as I want to avoid using 6 different names when reporting my findings.

## 4.1 Case #1: Giulia + mother

At the beginning of the program Giulia was 35 months old. The phoniatrics specialist who works in my team diagnosed her as a late talker at the age of 28 months. I first met her for a speech and language assessment when she was 30 months (May 2015). At that moment we concord with the parents to follow an indirect form of speech and language therapy therefore Giulia was monitored during follow-up sessions and indications were given to parents to support here language blooming.

When I called Giulia's family about participating in the program she was attending her first year of kindergarten. Her mum reported that she was well integrated with the peer group despite the persisting difficulties on the expressive language level. At the MacArthur questionnaire her vocabulary at the beginning of the intervention resulted under the 10th percentile from the norm expected for 30 months of age. During the program she had a vocabulary explosion registered at the post treatment MacArthur questionnaire and almost matched her peers in terms of spoken words, but persist a phonological disorder and a poorer morphosyntax skills. Giulia's socio-conversational ability, monitored during the program through the administration of a pre to post ASCB questionnaire, went from "emergent" at the beginning of the program, to developed at the end of it. In both evaluations assertive vs. responsive interaction style resulted balanced *(See Appendix vi)*.

Giulia's mother is a kindergarten teacher. Even before the intervention she adopted a responsive style when interacting with her child, giving her opportunity to talk and sustaining her initiative and production. She knows quite a lot children's song and a daily use of music, both sung and listened, is reported in the pre- MEL questionnaire.

Giulia attempted the sessions in the late afternoon after school, sometimes she was quite tired but nevertheless she always participated showing her enthusiasm. During the sessions Giulia was always easy to involve in games and activities, she follows both therapist's and mother's indication most of the time, when tired of an activity or a game, she tended to lead the situation proposing games or activity that I previously presented to her in the setting.

Giulia's mother followed me during the activities and acted like a model for her child. She participated vocally and with her body, she also played some instruments.

### 4.1.1 Video analysis findings

Each type of counted event is represented by a code. To understand the results a summary table of the codes used during analysis is reported in *table 3* (for a detailed description see *Appendix ii).*

Table 3. Video analysis codes

| CODE | ACTIVE PARTICIPATION |
|---|---|
| AP.S | Starts singing following the therapist to engage her child |
| AP.P | Starts playing following the therapist play |
| AP.M | Copies therapist movement on the music |
| AP.SD | Follows songs "direction" imitating the therapist |
| AP.SI | Does a movement/gesture/sign/sound inspired from the content of the song, imitating the therapist |
| CODE | PARENTS' INITIATIVE |
| PI.S1 | Starts singing by her own to her child without being invited while the therapist is playing an instrument a song/verse previously presented by the therapist |
| PI.S2 | Starts singing by her own to her child without being invited while the therapist is playing an instrument a song/verse that shares with her child |
| PI.S3 | Starts singing by her own to her child without being invited while the therapist is playing an instrument an improvised song/verse to call her child attention |
| PI.S4 | Starts singing by her own to her child without being invited while the therapist Is not playing/singing a song/verse previously presented by the therapist |
| PI.S5 | Starts singing by her own to her child without being invited while the therapist Is not playing/singing a song/verse that shares with her child |
| PI.S6 | Starts singing by her own to her child without being invited while the therapist Is not playing/singing an improvised song/verse to call her child attention |
| PI.I1 | Improvises on an instrument to call her child attention/engagement during the therapist improvisation/or musical activity |
| PI.I2 | Improvises on an instrument to call her child attention/engagement while the therapist is **not** playing or setting an activity |
| PI.O1 | Offers an instrument to her child during a song, an improvisation or a musical game |
| PI.O2 | Offers an instrument to her child outside a defined moment during the session (without the therapist structured an activity) |
| PI.SD | Follows songs "direction" spontaneously |
| PI.SI | Does a movement/gesture/sign/sound inspired from the content of the song |
| PI.M | Follows music with body movement or body percussion |
| CODE | CHILD BEHAVIOUR |
| C.MT | Child imitates a gesture/sign made by the therapist |
| C.MP | Child imitates a gesture/sign made by the parent |
| C.MA | Child makes a gesture/sign independently |
| C.S | Child sings |
| C.I | Child imitate a sound |

From the video analysis Giulia's mother shows the tendency to follow the therapist leads more than improvising. The total events for active participation are in fact 513 (66%) whilst the initiative events are 269 (34%), as can be seen in *Graph 1*.

*Graph 1*. **Case #1:** Parent's total events percentage
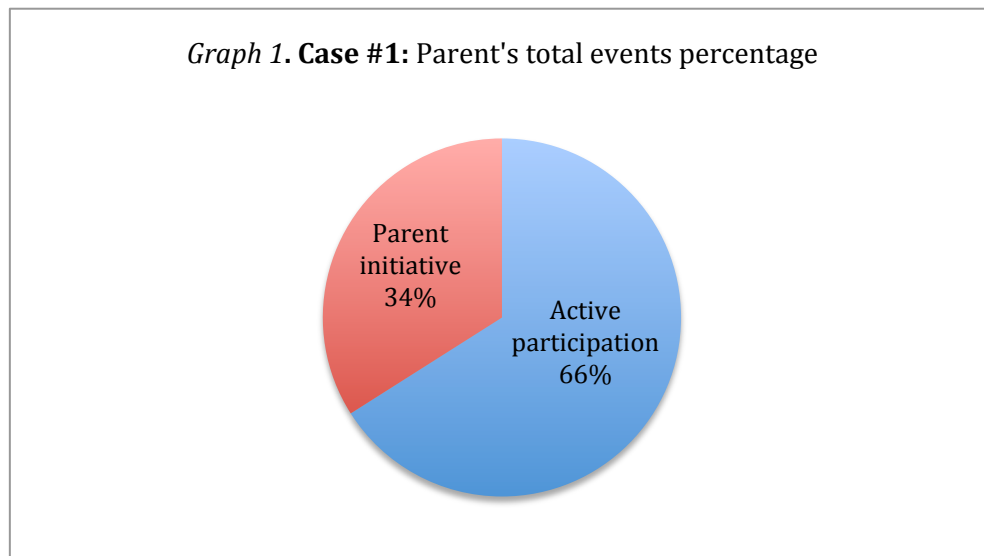


In the first domain, active participation, AP.S is the subdomain with more events (39%) followed by AP.SD (20%) and AP.SI (19%). AP.P and AP.M are the last two respectively 17% and 5% (See *Graph 2*).

*Graph 2*. **Case #1**: Percentage of the different types of parent's active participation registered



| | AP.S | AP.P | AP.M | AP.SD | AP.SI |
|---|---|---|---|---|---|
| Serie1 | 39% | 17% | 5% | 20% | 19% |
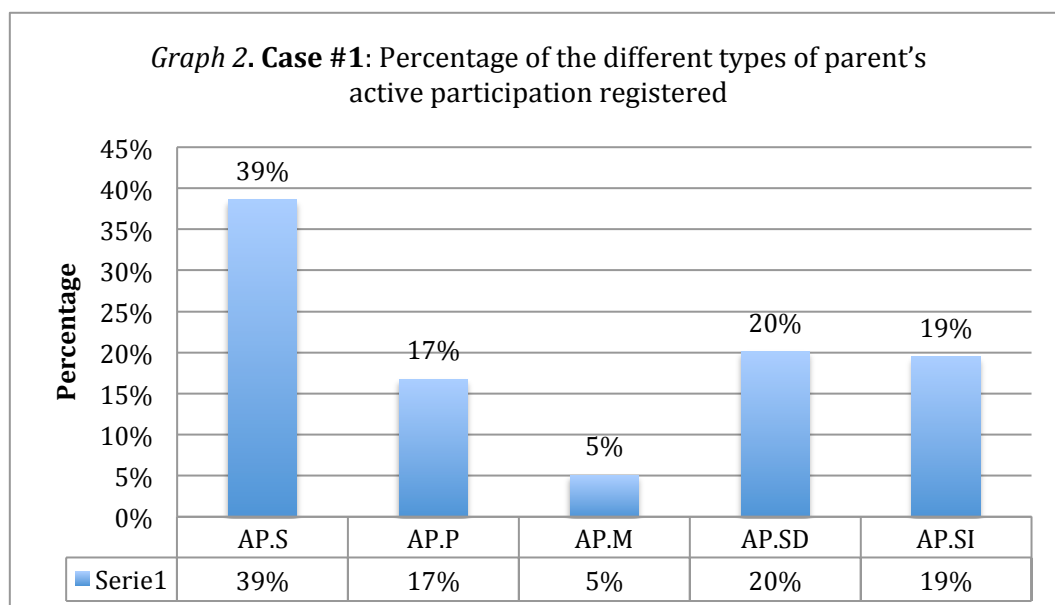
Parent's initiative has PI.SI as the first subdomain in term of frequency of events (40%) followed by PI.M (25%) and PI.I2 (17%). Sung improvisations (PI.S1-6) are the subdomains that had registered the lowest number of events: for the 6 events of the use of voice (PI.S1 to 6) only 16 events were counted for a percentage of the 3% of the overall initiative. PI.O2 and PI.SD were also scarce (see *Graph 3*).



*Graph 3*. **Case #1**: Percentage of the different types of parent's initiative registered

| | PI.S 1 | PS.S 2 | PI.S 3 | PI.S 4 | PI.S 5 | PI.S 6 | PI.I1 | PI.I2 | PI.O 1 | PI.O 2 | PI.S D | PI.SI | PI.M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Serie1 | 2% | 0% | 0% | 1% | 0% | 0% | 10% | 17% | 4% | 0% | 1% | 40% | 25% |
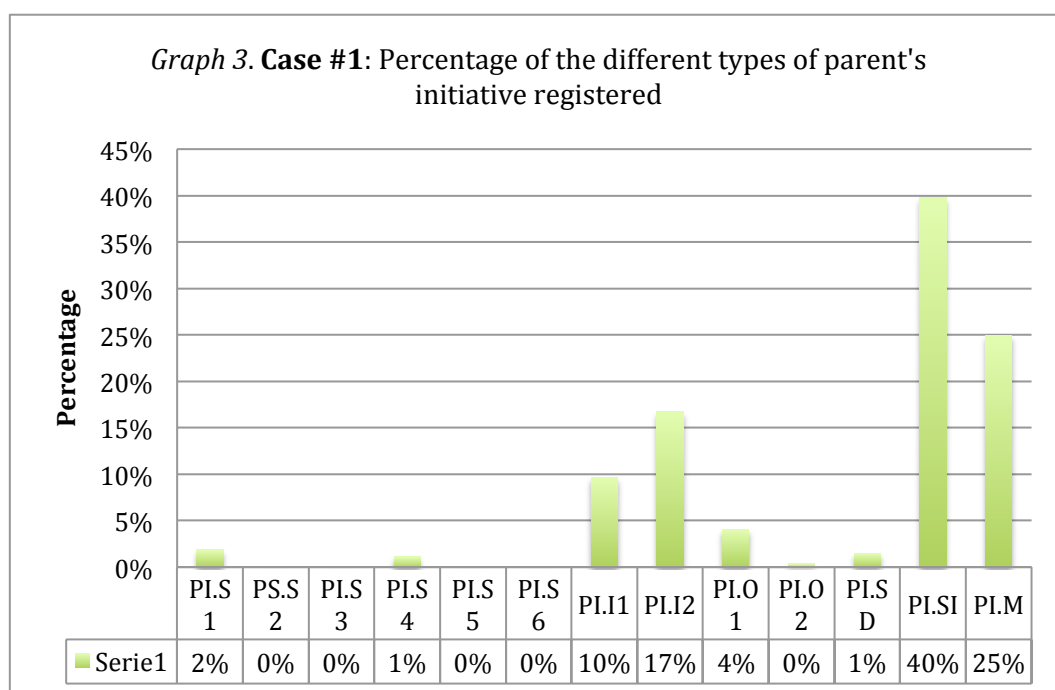
When I look at the number of events across the sessions for the two domains, a modest increment in the trend of parent involvement can be seen in *Graphs 4* and *5*.



*Graph 4*. **Case #1:** Parent's active participation through the sessions

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*Graph 5*. **Case #1:** Parent's initiative through the sessions
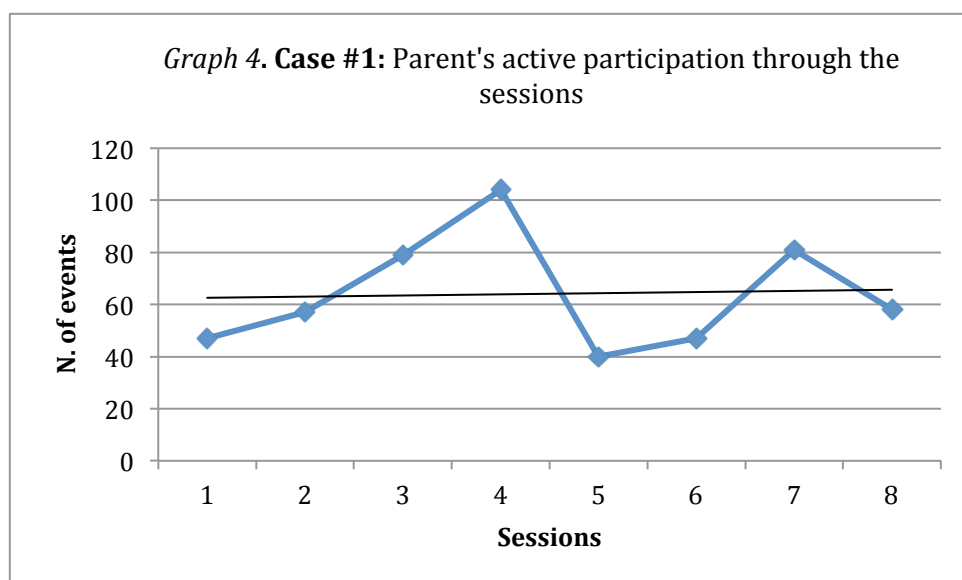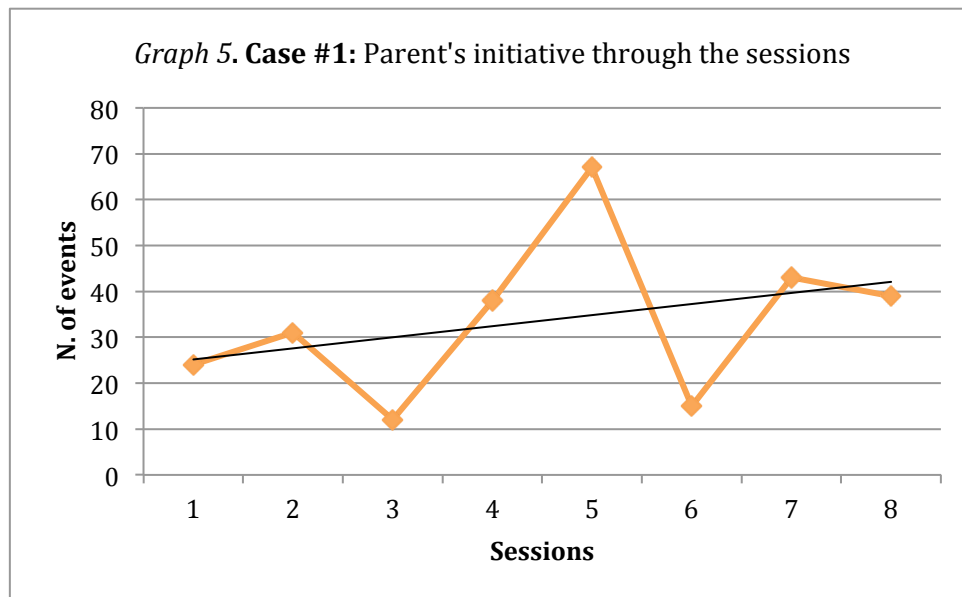
In contrast, child's participation, counted in the number of event that the child imitate a gesture/movement (C.MT, C.MP and C.MA), sing (C.S.) and imitate a sound (C.I), shown a downward trend, as visible in *Graph 6*.



*Graph 6.* **Case #1:** Child's participation through the sessions
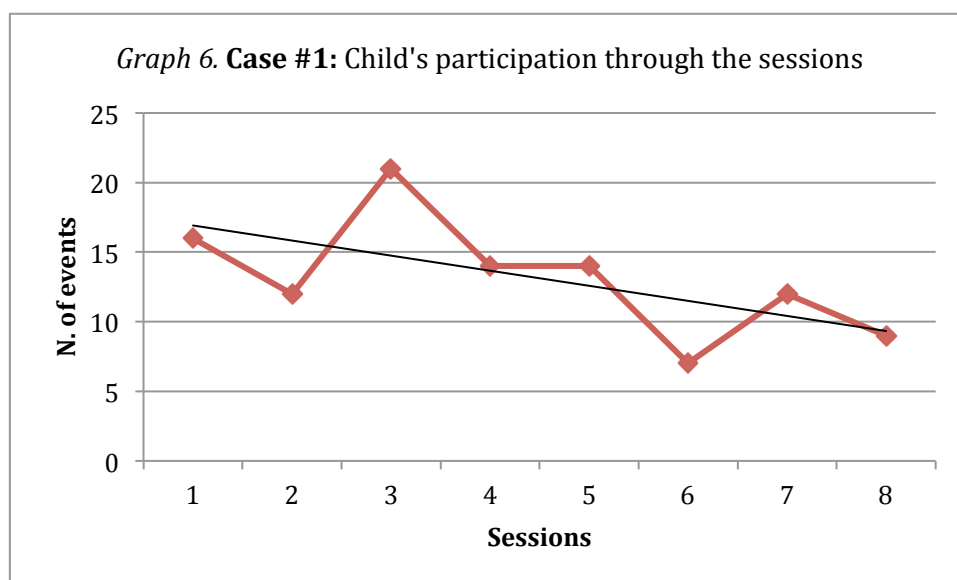
The subdomains for child's participation who have the highest number of counted event for this case were C.I. (child imitated a sound) with a 42% followed by the reproduction of gesture and movements made by the therapist (21%) and child singing (19%). Giulia copied her mum gesture/movement in a 9% of the total events of her participation and produce independently a gesture/movement in another 9% of the total cases (*Graph 7*).

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*Graph 7.* **Case #1:** Percentage of child's participation
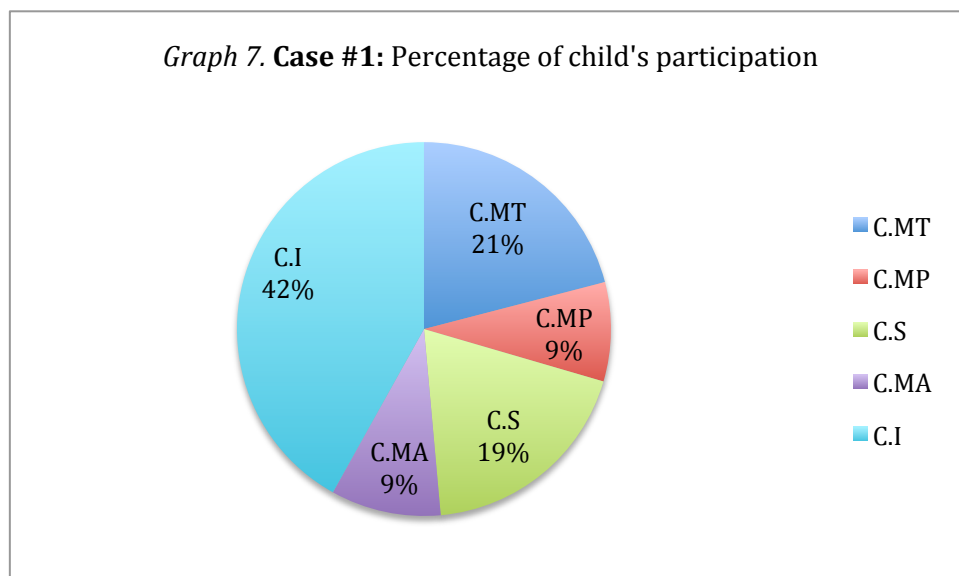
### 4.1.2 MEL questionnaire findings

The presence of music in this family everyday was present even before the beginning of the program though no one in the family was a musician at any level. Pre to post responses at the questionnaire for this family are visible in *Appendix vii.*

Giulia's mother reported that activities like singing, and listening to music were daily activities, lived as a positive experience for both mother and daughter. Singing was used to accompany cuddles and to help this mother's children to go to sleep. At the end of the program, this mum reported her enjoyment in singing after Giulia started to participate in singing.

Music listening was also a positive experience from the beginning: music help this mother recall good memories that she can recount. At the end of the program music listening is described as a mood regulator: "Listening "adult's" music or children's music puts me in a good mood".

At the beginning of the program pop music and children music were listen almost every day in different ways: every day at bed time, almost every day for enjoyment, a couple of days a week for helping the child to calm down, in the daily routine, to travel and to learn.

At the end, the types of music listened in the family increases (children, pop, relaxation) and also the use of it changed: music was added during mealtime a couple of days a week as well as for transitions and learn; while every day accompanied routines, bedtime and travels. Giulia's mum commented that was "difficult to quantify [how much music is used] often music is used following the "needs" or to accompany daily routines.

Musical instrument were not played in this family prior the intervention, while after was an experience added at the family's musical activities. One day a week this mum played an instrument with her daughter after the program, experience that is described as very positive for both and during which Giulia was very purposeful. They also started to play with her sister on a musical app, one day a week, creating a competition for who played louder and faster, in which mum and daughters were all involved.

### 4.1.3 Final questionnaire and follow-up interview

In the following table Giulia's mother perception about the program collected with the questionnaire (Q) and the follow-up interview (I) are displayed. Giulia's mother described her use of music during daily routines, how that has changed awhile the program and her perception, as a parent, of being directly involved during the sessions.

Table 4, Case #1

| During the sessions you were invited to actively participate using voice, body and instruments, what was your feeling about it? | It was so natural for me, thanks to my predisposition and for my work, but sometimes I was afraid to be a bit untimely or intrusive so I tried to keep myself out and leave space for my child. | Q |
| --- | --- | --- |
| | *I want Giulia to be the one that goes first, I did not want to "suffocate" her, I want here to do and take the most from this experience, and I want her to be the focus of the intervention.* *For a parent to actively participate it is important to feel safe about what to do or to be called and guided through the activity.* | I |
| The activities carried out during the sessions were proposed later at home? If so, what it was the response of your child? Was it easy to capture his/her attention and make him/her participate? | I always repeated them at home. Sometimes I was successful other times they aroused little interest. | Q |
| | ---- | I |
| Compared to classic game activities (toy cars, dolls, construction etc.) do you think that the music activities had easily captured your child attention and his/her involvement? | Yes. Music helps also in difficult context or during tidy up | Q |
| | *In general I find that the music channel helps especially in "difficult" context or with boring activities (like tidy up or brushing teeth). We play with music when we tidy for example: when music is on children has to put things away and when it stops they have to stop and stay still. That makes these activities a game for them and I find easy to convince my daughters to tidy up.* *From my experience when children feel not under pressure they talk more. Playing a game helps. Music activities are* | I |

| | | |
|---|---|---|
| | *structured but not rigid, from what I experienced here all the activities suggested leave the child free to experiment and participate in various way, her stimulus where acknowledged and used to carry on the game. That was a gratification for her and a positive reinforcement.* | |
| **Has it changed the way you use music in everyday situations with your child after the program?** | I use music more, not only during routines and in moment of "despair" (like during potty training I invented a song to help Giulia to stay a little bit longer on the potty). | Q |
| | *Giulia asks for music when in the car and she became more passionate about it. When she have tantrums -or to follow some routines that she does not like- I sing songs both known and improvised, like you did in the sessions, music makes life easier!* | I |
| **Did you use the materials provided during the program (songs written in symbols and book of sounds) at home? If so in what context? (During play activities, before bed, in individual situations, along with brothers/sisters...)** **Did you find them useful?** | Yes. We used your material to sing along with Giulia's sister. | Q |
| | *They were useful since we were able to share our songs with the rest of the family.* *When Giulia saw the picture on the power point file she told me the story of the song, but she never used symbols to recall songs words.* | I |
| **Was it a positive experience for you and your child?** | Yes | Q |
| | --- | I |
| **Did you find difficult to attend the program (hard to schedule the sessions in your weekly plan, difficulties regards the activities proposed difficulties in having your child involved, etc.)** | No. Giulia was always very happy to "go to sing to Giulia". I find always a great willingness to find a time that suited both my child needs and mine. | Q |
| | --- | I |
| **Would you suggest some modification at the program?** | No, nothing. | Q |
| | ---- | I |
| **Do you believe that this program would help develop communicative skills (joined attention, turn taking, participation, communicative intentionality) and language skills (vocabulary development?** | Yes, absolutely. Music channel is really helpful. | Q |
| | *In the last period Giulia uses the music channel more. She sings spontaneously. Last week was her father's birthday. We were all so surprised when she started to sing the "happy birthday" song all by herself. Her father started to cried.* *When she came home after the session she told her sister what she had done and she sung parts of the songs we did together* | I |
| **If yes, what was for you the aspect that more helped in developing these competences?** | The playful atmosphere, the open and not directive conduction that leave space for the child, and the excellent time management of the session. | Q |
| | ---- | I |

| Do you have any further feedback? | Dad shows interest about the video. He wants to see his daughter behaviour during the sessions, so I think it could be nice to receive a copy of the footage to share this experience with all the family. | Q |
|---|---|---|
| | *Even if I known I was attending a music therapy program for language development I was not thinking at what my child was saying. I looked at her face, seeking to catch her emotions. That takes away the performance anxiety that parents live in what their child do or not do. Children on contrary, do more if they do not feel under pressure.* | I |

### 4.1.4 Finding summary for Case #1

At the video analysis of this dyad appears the tendency of this mother to follow the lead of the therapist. Her participation was more an active participation than an initiative and this is partially justified by the mother during the interview when she reported that she was sometimes "*afraid to be a bit untimely or intrusive* " and she desired to " *leave space*" for her child.  She also added a reflection about the role of the therapist when she said "*For a parent to actively participate it is important to feel safe about what to do or to be called and guided through the activity*".

As the sessions went on, her participation trend saw a gradual increment in the initiative domain, although the overall percentage of it was of the 34% (vs. the 66% of active participation), on the contrary, child's participation decreased in its trend. This is particularly interesting as child's participation mainly concerns the use of the voice or gesture with a meaning during the activities. Giulia used less gesture and sounds as the sessions went on even if her language skills were developing and blooming during the program time.

Giulia's mother participation was particular evident when song's activities were proposed: she sung along with the therapist and she reproduced gesture or sign inspired or directed by the song either spontaneously or mirroring the therapist. This activity also appeared to be interesting for the child who often participated in song's activities following the therapist, the parent or being independent in reproducing gestures, signs or sounds.

Music for this family was part of the daily routine even before the program. This mother's predispositions and knowledge came also from her job as a kindergarten teacher so it was natural for her to use voice, body and instruments during the sessions, as clearly appear from the video analysis and reported in the final questionnaire. During the last part of the sessions we often discussed how to use music to help difficult moments in the daily life (like transitions from one activity to another, tidy up, call the child's attention and her engagement). She started

to use music in "difficult context" and she reported how "*that makes these activities a game for them*" (her daughters). The characteristics of music activities proposed were also perceived by this mother as facilitators for the child participation as they "*leave the child free to experiment and participate in various ways*". She pointed out how situations in which the child does not feel under pressure are more favourable for child's talk. In the sessions child's initiative were "*acknowledged and used to carry on the game*" which was perceived from this mother as a "*gratification and a positive reinforcement*" for her child.

After the program music was used more in this family: not only this mother add music in different situations (like mealtime, transitions and for learn) but also her child asked more for music and "*became more passionate about it":* she used the music channel more and started to sing spontaneously. Giulia's mother used some strategies adopted during the sessions, like creating format and semantic contingency while singing, to overcome tantrums or convince her child to follow difficult routines. She sung known song and also started to improvise, as seen in the music therapy setting. Her perception of music after the program was that "*music makes life easier".*

This music experience also influenced other members of the family as Giulia's sister joint them regularly in the music activities when proposed at home.


## 4.2 Case #2: Fabio + mother

Fabio was referred to me from the local health service. He is diagnosed as a late talker and in fact his vocabulary at the beginning of the program and at the end of it, was under the 10th percentile at the MacArthur questionnaire for 30 months of age (he was 32 at the beginning of the program) with a vocabulary that consist of 17 words at the beginning of the program and of 28 after it. It is interesting to notice that also his socio conversational skills scored very low, as reported by his mum on the ASCB questionnaire. They results absents (score 1) both in the assertive and responsive scale at the beginning of the program and emerging (score 2) at the end of it (see *Appendix vi).*

Fabio was very difficult to involve in activities and when it happen his attention did not last for long. He runs quickly from one activity to another without engaging in a game or completing it. In the settings the instruments on the shelf attracted him and he went often to them to pick a new instrument. This difficulty in engage him in a game was also reported from his mother during the first colloquy. Fabio's mum described his game as "mainly physical" which sometimes leads into a real fight with his older brother. Being mother of three, in which Fabio is the youngest one, Fabio's mum also reported that the time she had individually with him was

little, therefore our sessions were one of the few moments she could stay with his child without her other sons.

To suit the working commitments of this family, our sessions were scheduled in the early morning, although this appears not to be ideal for the child. Indeed every time we started a session Fabio was sleepy since he felt asleep during the car journey to the clinic, and it took a bit of time to have him involved. Therefore at the beginning of the session he wondered for mum's cuddle and he did not interact with me. When awake, usually after 5/10 minutes, he often showed an oppositional behaviour and a close stance that took a while to be overcome. This behaviour was present during all the sessions and did not change in its quality as Fabio got to know me and the setting better, but as the sessions went on, it took me less time to get him involved and participating at the activities.

Of all the three dyads this one was the most difficult to engage for the resistances and the behaviour showed by the child, and for the unfamiliarity of this family for the musical activities, which were not part of the family routine as reported by the mother on the first MEL questionnaire (*Appendix viii)*.

### 4.2.1 Video analysis

Fabio's mother initiative was predominant on her active participation (See *Graph 8*). What emerged was that she used a lot of instrumental improvisation both while the therapist was carrying out a music activity (PI.I1[3] 35%) than by herself while the therapist was not playing or conducting an activity (PI.I2 25%).



*Graph 8*. **Case #2:** Parent's total events percentage

Active participation 33%

Parent's initiative 67%

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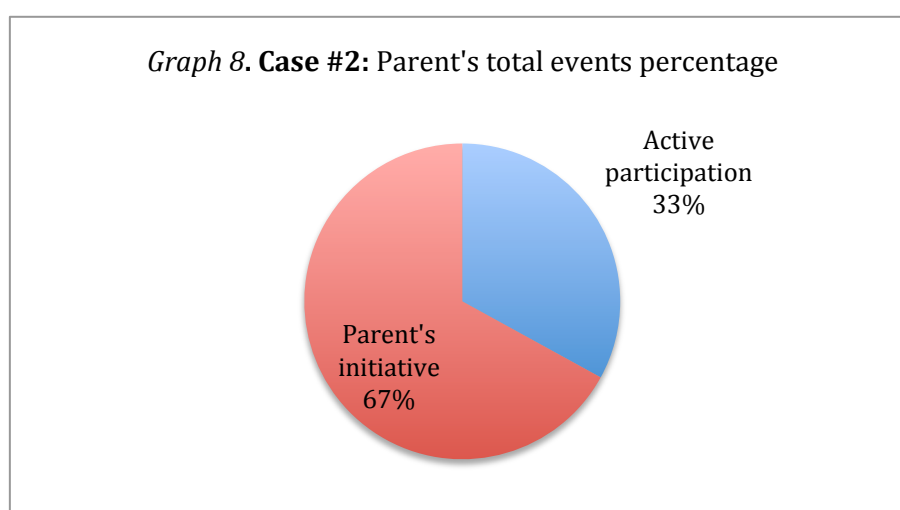
[3] Codes description are illllustrated in *Table 3*, Chapter 4.1.1.

Making movements and gestures inspired by the song by herself, were the third most common type of initiative noted for this mother (PI.SI 17%). Her active participation consists in playing after the therapist play (AP.P 62%) and in singing together with the therapist (21%) all other categories scored under 7% (see *Graphs 9* and *10*).



*Graph 9.* **Case #2**: Percentage of the different types of parent's active participation registered

| | AP.S | AP.P | AP.M | AP.SD | AP.SI |
|---|---|---|---|---|---|
| Serie1 | 21% | 62% | 7% | 7% | 2% |



*Graph 10.* **Case #2**: Percentage of the different types of parent's initiative registered

| | PI.S 1 | PI.S 2 | PI.S 3 | PI.S 4 | PI.S 5 | PI.S 6 | PI.I 1 | PI.I 2 | PI. O1 | PI. O2 | PI.S D | PI.S I | PI. M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Serie1 | 0% | 0% | 0% | 0% | 0% | 0% | 35% | 25% | 8% | 11% | 0% | 17% | 5% |
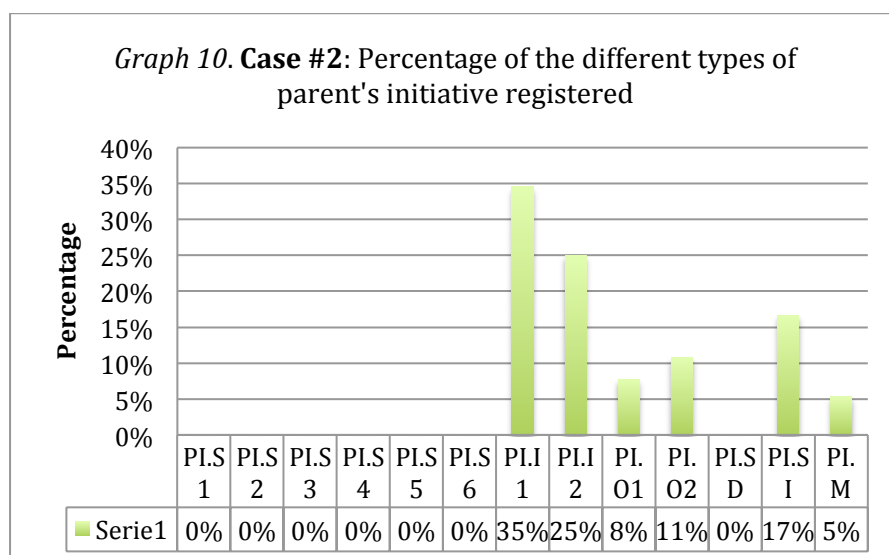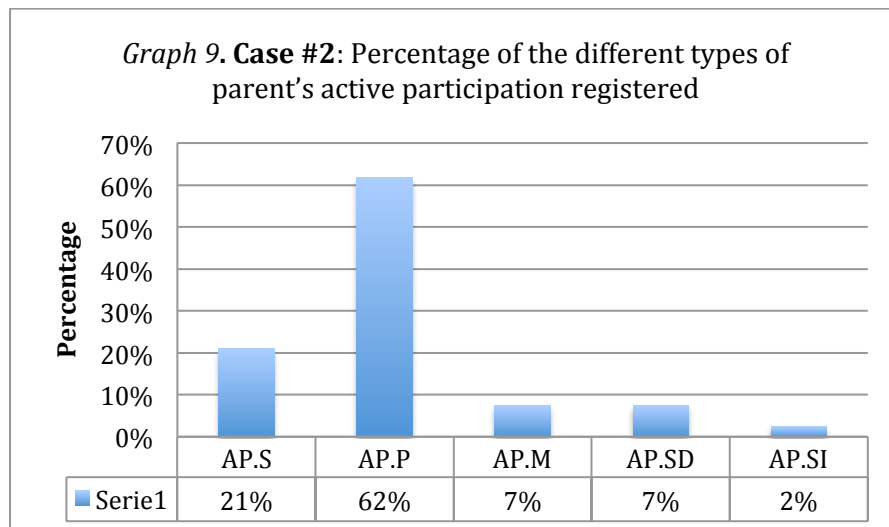
The number of events registered across the sessions for the two domains in the parent's participation shown a negative tendency for this mother, decreasing as the sessions proceeded (See *Graph 11* and *12*) whilst the opposite trend was registered for the child's participation as visible in *graph 13*.

*Graph 11.* **Case #2:** Parent's active participation trend
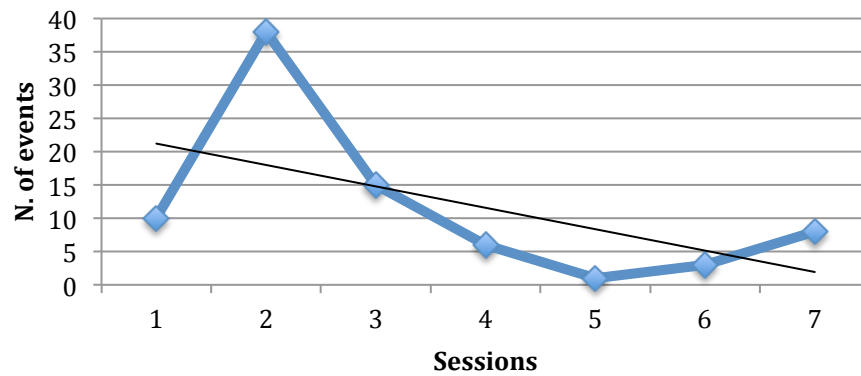


*Graph 12.* **Case #2:** Parent's initiative trend
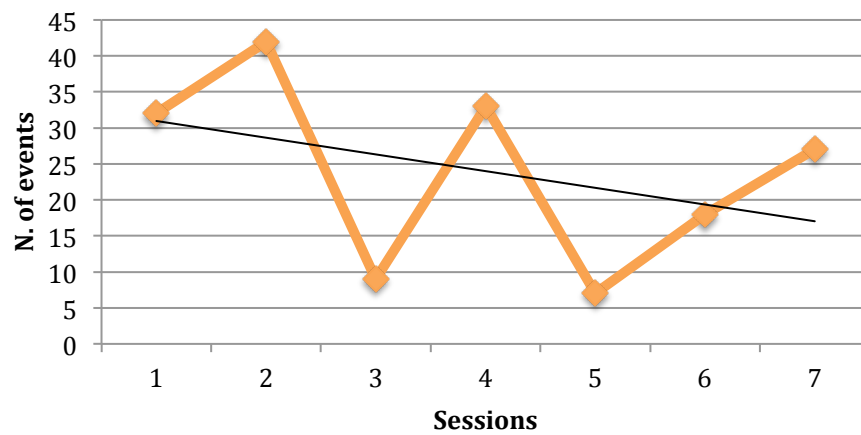


*Graph 13.* **Case #2:** Child's participation trend
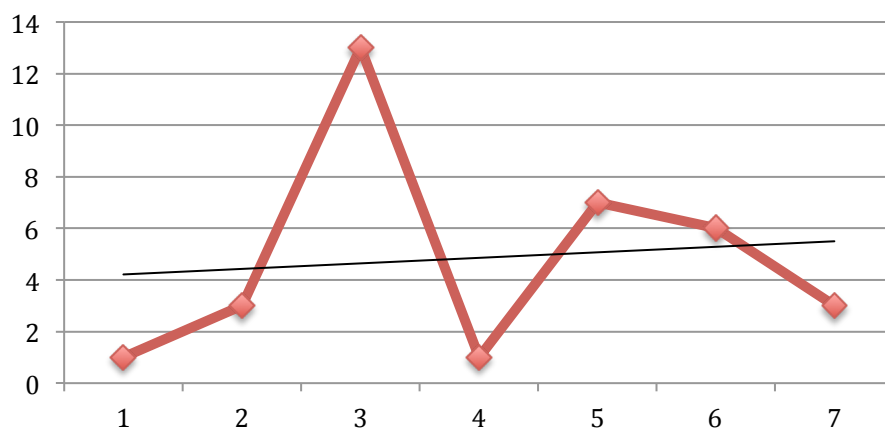
Fabio participated copying gesture and signs made by the therapist (C.MT 38%) and imitating sounds (C.I 29%). In some sessions he sung for a total 18% of the overall events of participation counted, and in some cases he produced a sign or a gesture during an activity independently (C.MA 15%). Fabio never imitated his mother gesture or sign during the activities (C.MP). The different percentages of the child's participation, divided per subdomains are displayed in *graph 14.*



*Graph 14.* **Case #2:** Percentage of child's participation
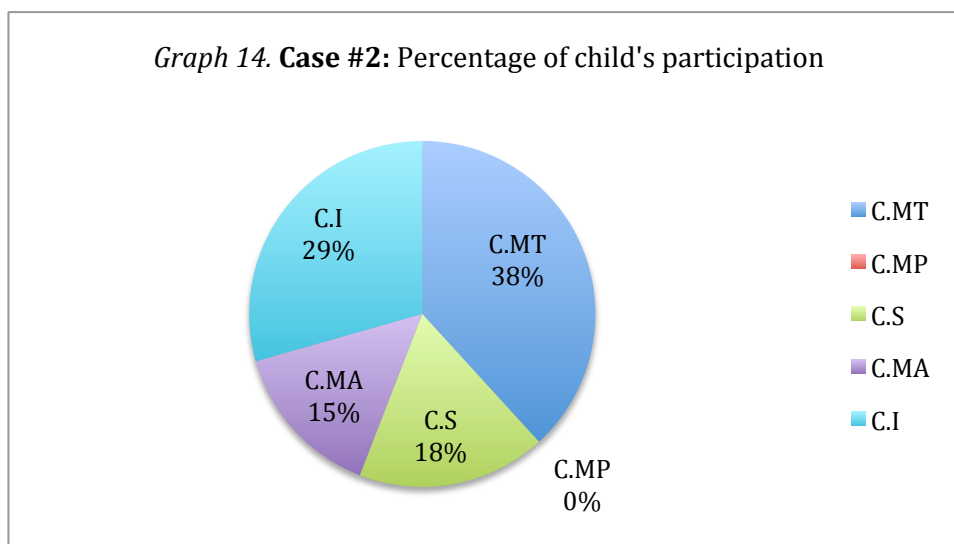
### 4.2.2 MEL questionnaire findings

Prior to the program, music in this family was used only when travelling. Almost every day this mum in fact reported to use children music while travelling with her son. There were not other activities that involved music reported. (See *Appendix viii).*

After the program there was an increment in the presence of the music in the everyday context: Fabio's mum started singing and her son followed her pretending to sing too, they started to play instruments and music listening became a daily activity. Fabio started to dance while listening to music and to show interest in music instruments, even if his play doesn't last for long, as reported by the mum.

Other kind of music where added at the children experience beside children's songs: pop and dance music were listened respectively one day and a couple of days of the week. Music was used at the end of the program every day while travelling, almost every day for enjoyment and a couple of days for learn. During the program Fabio's sister started to play flute at school so this experience was added at the music activities of the family a couple of days a week. All the experiences were reported as positive.

### 4.2.3 Final questionnaire and follow-up interview

During the follow-up interview this mother expanded her questionnaire's answers, adding important comments and describing some situations that happened in their home context. She also added her perspective about her child's participation during the sessions.

Table 5, Case #2

| | | |
|---|---|---|
| **During the sessions you were invited to actively participate using voice, body and instruments, what was your feeling about it?** | That was not difficult for me. | **Q** |
| | ---- | **I** |
| **The activities carried out during the sessions were proposed later at home? If so, what it was the response of your child? Was it easy to capture his/her attention and make him/her participate?** | I tried to start some activities, but after a first moment of enthusiasm he get bored quickly. | **Q** |
| | ----- | **I** |
| **Compared to classic game activities (toy cars, dolls, construction etc.) do you think that the music activities had easily captured your child attention and his/her involvement?** | Yes. | **Q** |
| | *During the sessions there were moments in which you were able to catch his attention following his "game". He was more involved than what he used to be at home with other activities that he used to start and quit quickly. He often played physical games that do not require to stay sit or to interact. Now it seems to me that he is able to stay longer in a game, not only in musical games but also when he plays with constructions. He even starts to paint recently.* | **I** |
| **Has it changed the way you use music in everyday situations with your child after the program?** | Yes. He looks for his sister's flute and he wants songs while in the car. | **Q** |
| | *He asks for music every time we got in the car now and when we are home, he puts on his favourite CD in the stereo and he pretend to sing using a toy microphone. He also steals his sister's flute and plays it. I downloaded the songs we did together on my mobile phone and now when he has access to my phone he searches them and plays them. He often asks the "bus song" and the "monkey" song.* | **I** |
| **Did you use the materials provided during the program (songs written in symbols and book of sounds) at home? If so in what context? (During play activities, before bed, in individual situations, along with brothers/sisters...) Did you find them useful?** | Yes. During play time with his brothers | **Q** |
| | *I printed the power point files and I used them with Fabio. Her sister was curious about it so she often come along when I was showing them to him. However he never stayed long on them, he loses his attention soon. Much more appreciated was the book of sounds thanks to that he starts to reproduce more sounds like /brum brum/, /etSu/ and /tok tok/. When we sing the songs you gave us on the power point file, he is able to finish the verse now. Symbols are like a prompt for him.* | **I** |
| **Was it a positive experience for you and your** | Yes. | **Q** |

| child? | *Every Thursday I anticipated him that we were going to see you the next day and every time he was very happy. His communication has improved from my point of view, he seems more quite and he responds more.* <br><br> *If you force him to talk he is always frustrated, he is got angry and he goes in a corner to isolate himself. Now that he started to use some words and onomatopoeic sounds alone is different. Yesterday I show him the door and he spontaneously said "toc toc", he looks for the right moment to say that word. Still his acquisitions are really slow.* | I |
|---|---|---|
| **Did you find difficult to attend the program (hard to schedule the sessions in your weekly plan, difficulties regards the activities proposed difficulties in having your child involved, etc.)** | No. | Q |
| | *We set our sessions every time on the same day and time so it was easy for me to organize it. It was also in a moment in which my other sons where at school so I have time for Fabio.* | I |
| **Would you suggest some modification at the program?** | No | Q |
| | ---- | I |
| **Do you believe that this program would help develop communicative skills (joined attention, turn taking, participation, communicative intentionality) and language skills (vocabulary development?** | Yes | Q |
| | ---- | I |
| **If yes, what was for you the aspect that more helped in developing these competences?** | I find really useful the sounds game. I used the book suggested and often Fabio looks for it, and thanks to it he learned new words and sounds. | Q |
| | ---- | I |
| **Do you have any further feedback?** | ---- | Q |

### 4.2.4 Finding summary for Case #2

Fabio was really hard to engage in games and activities that I proposed to him, and always shown a closed stance and an oppositional behaviour during the sessions. For this reason improvisation took a large part during the music therapy sessions. His tendency to be more physical was more indulged during play and this was reflected in the type of participation of this parent during the sessions. Fabio's mother participation was mainly improvisational: she played more than sing and she uses instruments during activities and by her own to call her child attention, meeting him on his level of participation.

Mother's trend of participation downward in both domains while Fabio's participation incremented gradually as sessions went on. Fabio was more assertive and responsive in his communication as appeared on the ASCB test administered at the end of the program were those skills scored at an

emerging level. This change was also visible in his musical exchanges and participation during the sessions where Fabio copied the therapist's gestures and sounds and had some turn taking moment with the therapist during improvisations. He never repeated a gesture/sign following his mother but that could also be explained by the little participation of his mother at singing activities, both vocally and physically (with gestures, signs or movements).

Although she did not find difficult to actively participate with voice, body and instruments during the sessions, as reported in the final questionnaire, it was also clear by the first MEL questionnaire's responses, that music was not an activity that was present in this family at the beginning of the program if not for some music listened while travelling. After attending the program, the use of music in everyday context changed, and music was used with more frequency and in different context, not only while travelling but also as a form of interaction with the child. Fabio's responses at the music stimulus also changed: he was more involved in music activities which lasted more than other play activities that he often quit quickly before the program. He also asked for music when in the car and at home he played his favourite Cd on the stereo, or on his mother mobile.

During the sessions his attention was caught when the therapist followed his game, not directing him but responding to him. His mother reported that when forced to talk he was always frustrated, got angry and isolate himself, situation that is changed after the program as his communication improve in terms of attitude and production of words and sounds, some of them learned through the program. Materials shared with the family, specially the book's of sound and the songs' books in symbols were used at home and shared with Fabio's sister too, giving Fabio the occasion to sing and use his voice prompted by symbols and images.

Despite these positive changes, Fabio's mother reported that it was still hard to have him involved in a game or activity for a long time since after a first moment of enthusiasm, he got bored quickly and loose his attention.


## 4.3 Case #3: Federico + mother

Federico was the only child participating at the program who came from a family in which both parents play music at an amateur level. Federico's mother sings very often and his dad plays guitar. As a game they sometimes use a keyboard to pretend to be pianist even if none of his parents has piano skills.

He was referred to the program by the phoniatrics that works in my team, which evaluated him as required by the parents.

Federico is a late talker boy that at the beginning of the program was 26 months old with a vocabulary under the 10th percentile at the MacArthur questionnaire (-1,8 deviation standard) and socio conversational abilities that were not balanced at the beginning of the program: responsive abilities

were developed (score 3) while assertive abilities were emerging  (score 2) id est. he responded to questions and verbal input from adults, but he did not often starts a conversation or a communicative act. At the end of the program his vocabulary remained under the expectations for age (-2,4 ds) but his socio conversational abilities were developed (score 3) in both domains (see *Appendix vi*).

At the first observation, Federico was easy to engage and his mother tended to support him often directing and leading activities. This behaviour was also visible in the setting were since the beginning Federico's mother besides following the therapist in the activity or games, often proposed and direct part of the activity, assuming the role of the leader in the interaction with her son. Federico follows indications but was rarely propositive in the setting.

He is the youngest brother of two, and he often play together with his mum, with the older brother.

The way he played was appropriate for his age. He was also attending his first year at the local kindergarten, where he did not have problems of inclusion with his peers. His parents were concerned about his language delay because it was significantly different from his brother, and they were quite worried as they can compare the skills of the two sons and the second one appears to them in great difficulty. However, although his expressive language was very little at the beginning of the program, Federico did not avoid communicating with others and he used all the tools he had available (words, gesture, mimic) to communicate and express his ideas and needs.

### 4.3.1 Video analysis

In the video analysis of this dyad, Federico's mother active participation at the sessions was consistent (AP 74%, see *Graph 15*) with a homogeneous percentage of events across the subdomains: singing, playing and repeating movement or gesture inspired or directed by the song, had a frequency of around 20% for all the listed subdomains (see *Graph 16*).



*Graph 15*. **Case #3:** Parent's total events percentage

Graph 16. **Case #3**: Percentage of the different types of parent's active participation registered

| | AP.S | AP.P | AP.M | AP.SD | AP.SI |
|---|---|---|---|---|---|
| Serie1 | 28% | 23% | 8% | 18% | 23% |
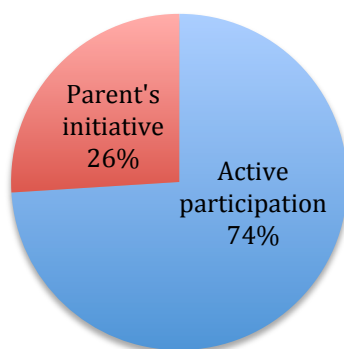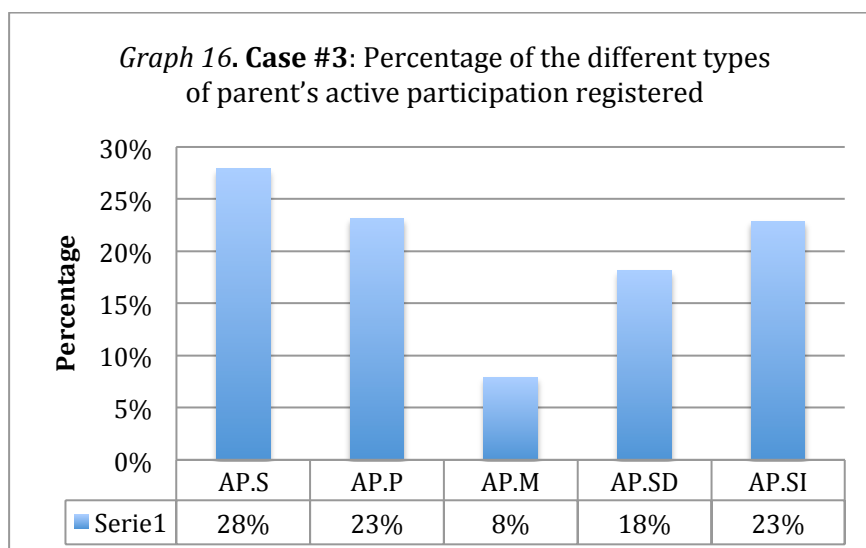
Parent's initiative, who occupied a 26% of parent's overall participation consists of movements on music and body percussion (PI.M 27%), instrumental improvisation that the mother did by herself (PI.I2 25%), instrumental improvisation while the therapist was playing or conducting another activity (PI.I1 18%) and making movements/gesture inspired from the content of the songs (PI.SI 22%). Percentages of the different subdomains in the parent's initiative's domain are showed in *graph 17).*



Graph 17. **Case #3**: Percentage of the different types of parent's initiative registered

| | PI.S 1 | PI.S 2 | PI.S 3 | PI.S 4 | PI.S 5 | PI.S 6 | PI.I 1 | PI.I 2 | PI. O1 | PI. O2 | PI.S D | PI.S I | PI. M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Serie1 | 0% | 0% | 1% | 0% | 0% | 0% | 18% | 25% | 3% | 4% | 1% | 22% | 27% |
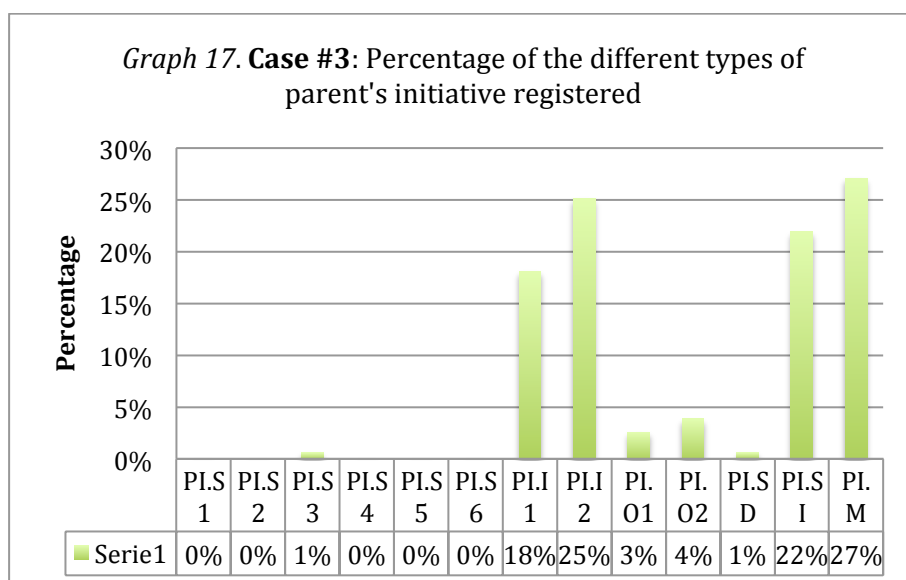
The trends toward the sessions for this dyad was similar to the one registered for Case#2. While the parent's participation shown a downward trend in both active participation domain and parent's initiative, the child's participation trend increases among the sessions. The three trends are visible in *Graphs 18, 19,* and *20.*

**Graph 18.** **Case #3:** Parent's active participation trend



**Graph 19.** **Case #3:** Parent's initiative trend



**Graph 20.** **Case #3:** Child's participation trend
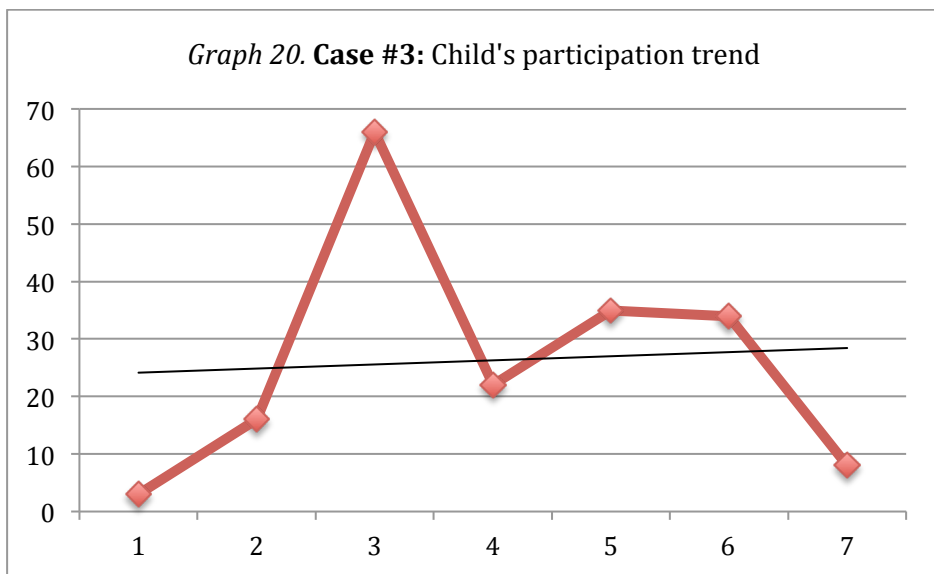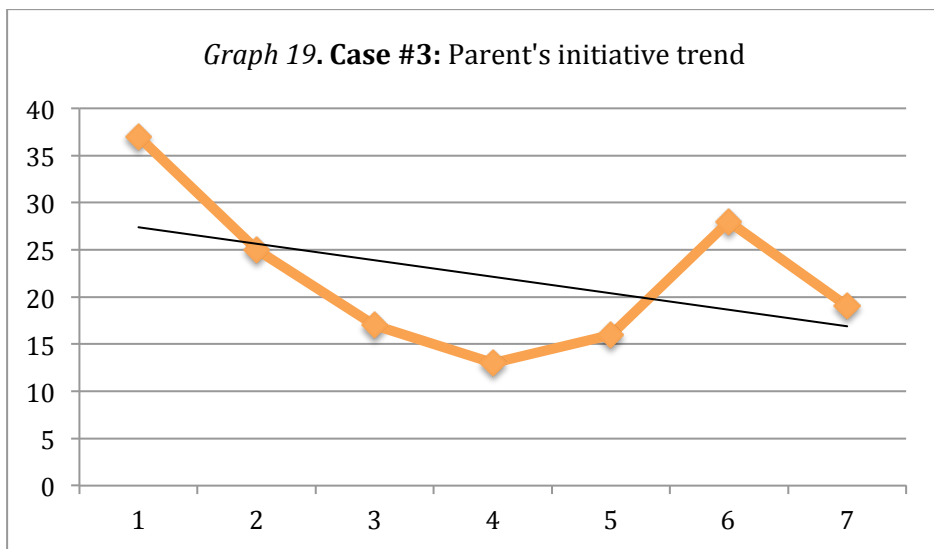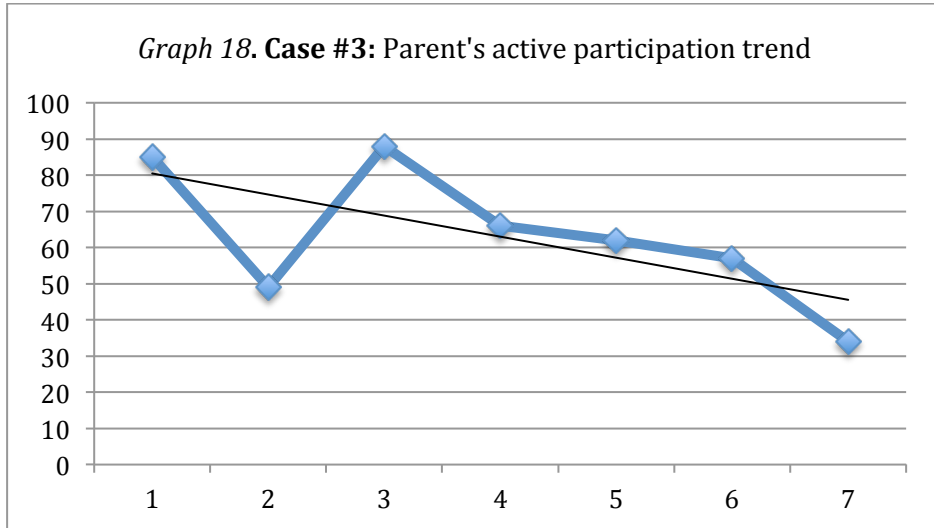
Federico participated at the sessions vocally imitating sounds (C.I 43% of the total events) and singing (C.S 15%), and imitating sign and gesture made by the therapist (C.MT 32%). Events less registered during the sessions were the imitation of gesture/signs made by the parent (C.MP 6%) and independent production of sign and gesture during an activity (C.MA 4%). Results are displayed in *graph 21.*



*Graph 21.* **Case #3:** Percentage of child's participation
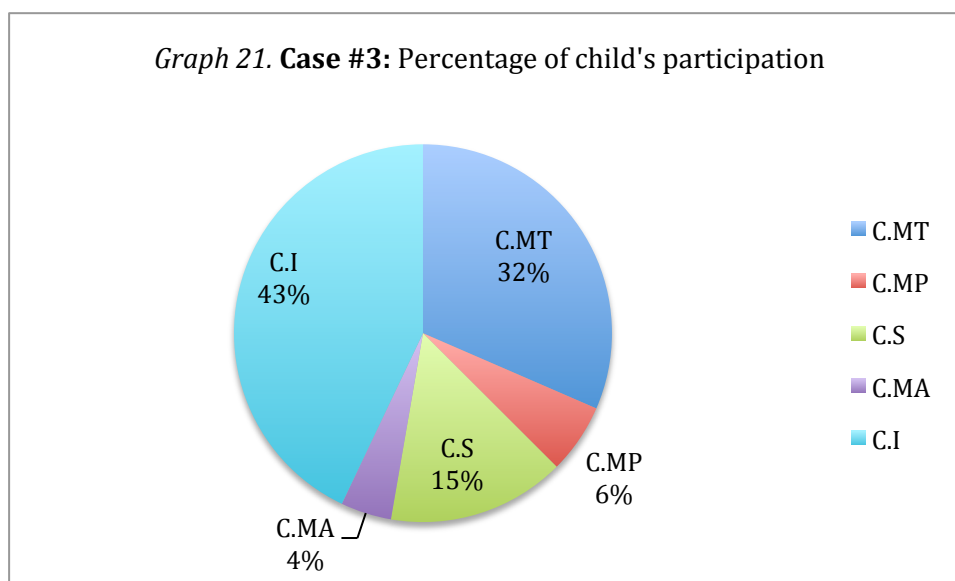
### 4.3.2 MEL questionnaire findings

The use of music for this family did not have major changes from prior to after the program (*Appendix ix)*. Music was an every day listening experience, and it remained like that after the program. Musical instrument were played a couple of days a week, and singing happened almost every day before and after the program. All these experiences were reported as positive for the child. In the pre questionnaire this mum reported that two members of the family played instruments one day a week (one person the guitar, the second person the keyboard), while at the end only one person was reported as a player in the family.

What changed was the use of musical app: from a couple of days week to never, and the types and ways music was used in the family. If prior the intervention pop music, dance and rock were listened almost every day followed by children's music and music from their cultural heritage, after the program, pop music and music of the cultural heritage were listened almost every day, while children's music a couple of days a week and dance music never.

Music was used almost every day during mealtime, travelling and for enjoyment and a couple of days at bed time and for learn prior the program, while after it was not used at bed time and mealtime, and decreased its use for enjoyment (from almost every day to a couple of days a week, *Appendix ix*).

### 4.3.3 Final questionnaire and follow-up interview

Few information were collected through the questionnaire, thus interview helped understanding this parents perception. Particularly interesting is the comment made by this mother regards the experience, which is correlated with the use of a responsive style of interaction. She touched another interesting point when she commented on the way music was used as a form of "play".

Table 6, Case #3

| | | |
|---|---|---|
| **During the sessions you were invited to actively participate using voice, body and instruments, what was your feeling about it?** | It was not difficult. | **Q** |
| | ---- | **I** |
| **The activities carried out during the sessions were proposed later at home? If so, what it was the response of your child?** **Was it easy to capture his/her attention and make him/her participate?** | We sung the song you proposed during the sessions, with a lot of pleasure and participation from Francesco. | **Q** |
| | *When we use them at home we rarely sit on the carpet like during your sessions. Sometimes we use them at bedtime instead of the story, other times I have to improvise in different context since at home there is also the older brother that wants to take part.* | **I** |
| **Compared to classic game activities (toy cars, dolls, construction etc.) do you think that the music activities had easily captured your child attention and his/her involvement?** | Yes, it seems to me that singing he try to say more words. | **Q** |
| | ---- | **I** |
| **Has it changed the way you use music in everyday situations with your child after the program?** | No | **Q** |
| | ---- | **I** |
| **Did you use the materials provided during the program (songs written in symbols and book of sounds) at home? If so in what context? (During play activities, before bed, in individual situations, along with brothers/sisters...)** **Did you find them useful?** | Yes, during play and together with his brother | **Q** |
| | *We used all the materials. When we sing the songs in symbols he use both symbols and gestures. He has brought the book of sounds to school for a week* | **I** |
| **Was it a positive experience for you and your child?** | Yes | **Q** |
| | *It was a really positive experience for him, and even if it was a short-term experience I think it has positively impacted my child. I am very happy to had take part to it.* *I don't know if it was thanks to this context or generally for all the life context Francesco lives, but I saw him changed recently, with more desire to communicate and interact.* *I think that this way of presenting activities without asking him to respond makes him more willing to respond and repeat the words that are in the songs. It was more natural. He loves songs and when* | **I** |

| | | |
|---|---|---|
| | *he listens to a sound he repeated it spontaneously, even outside the song. He kind of generalized what he learned during your sessions.* | |
| **Did you find difficult to attend the program (hard to schedule the sessions in your weekly plan, difficulties regards the activities proposed difficulties in having your child involved, etc.)** | No | **Q** |
| | ---- | **I** |
| **Would you suggest some modification at the program?** | No | **Q** |
| | ---- | **I** |
| **Do you believe that this program would help develop communicative skills (joined attention, turn taking, participation, communicative intentionality) and language skills (vocabulary development?** | Yes, I noticed since the beginning the desire to repeat what was proposed. | **Q** |
| | --- | **I** |
| **If yes, what was for you the aspect that more helped in developing these competences?** | Music was what helped more. Songs proposed are simple to understand and words used are easy to repeat. | **Q** |
| | *Before the program we use songs in a different way. We listen them once and them we moved on a second song, there was not so much "play" in what we used to do.*<br><br>*Here we focused on 4/5 songs, and in songs that more suited my child needs. At home we never used "easy" songs. The songs you used were repetitive and focuses on speech sounds or gesture, they were easy to understand and the words were easy to repeat.*<br><br>*Now I sometimes see Francesco singing and making gestures and I easily understand what song is singing and I can sing along with him. That never happened before. Before we sung and dance, sometimes we played the guitar or the piano, but I understand that I was making mistakes sometimes when I asked him to repeat and I questioned him about the song lyrics. He was not always responsive in this way.*<br><br>*Sometimes it was indeed stressful for him, his attention was very low, and sometimes he closed in himself.*<br><br>*I see that being less demanding has its effects on the child participation and production.* | **I** |
| **Do you have any further feedback?** | --- | **Q** |

### 4.3.4 Finding summary for Case #3

Federico's mother participation was mainly registered in the active participation domain: she followed the therapist in singing and playing using body, voice and instruments to join the activity proposed.

Her initiative took a minor part of the events (26%). Being used to sing and play, she did not found difficult to participate, as reported in the final questionnaire, and that was visible in the video analysis from where emerged that she followed me during the activities singing and playing instruments. Those two types of participation were those that were more present during the sessions, followed by the production of sign and gestures during songs and games.

Francesco was easy to engage in the activities and he followed the therapist imitating sounds, signs and gestures during songs.

Mother's trend of participation downward in both domains while Federico's participation incremented gradually as sessions went on.

What appeared from MEL questionnaire's responses is that there were not major changes from pre to post intervention in the use of music in everyday context, but changed the way this mother proposed and think at musical activities. What emerged from the follow-up interview in fact is that she changed the way they listen to songs: before the program they used to listen to music without adding some playful moments, listening was more a passive activity which included different kind of music. Now they played few songs that "more suited the child's needs" and were more "easy" for the child to follow. Using songs like those presented during the program, Federico was more participative and he repeated speech sounds or gestures more. What appeared from the follow-up interview is that he became more propositive and started to sing and dance songs by himself. Using his voice or making signs or gestures in songs, shared before with his mother or while with her in music therapy, became easy for his mother to understand what song he was singing and to joint him. They had a shared "code" made of sounds, melodies and signs that let them able to connect in music.

With the songs books shared with the family, he was able to follow the lyrics, sing and making correct gestures/signs when called by the song. The biggest change in this mother approach to these activities was that she discovered a new way to engage him in activities that was less directive and more responsive, avoiding stress and closeness in her child *"Being less demanding has its effects on the child participation and production",* she reported during the follow-up interview. The way activities were proposed during the sessions, without being demanding or directive to the child was found for here to make him "*more willing to respond and repeat the words in the songs".* Those words and sounds were also produced by the child outside the frame of the specific song *"generalizing what he learned during the sessions".*

# CHAPTER 5: DISCUSSION

The purpose of this study was to investigate the participation that parents and children shown during the program as a way to understand the therapist and the parent's role in the music therapy setting. It was also important for me to see the changes that happened in the uses of music in everyday life to understand if some transferability between the music therapy setting and the home context was possible, not only in the way music was used at home, but also in the patterns of interaction adopted by these parents while playing with their child.

The program aims to empower parents in the use of music as a way to promote child's participation and engagement during interactions and play, and a positive interactional style between parent and child in the everyday life's contexts.

In this chapter I summarize and discuss the findings for the three cases relating my findings to the literature, add some reflections on the study and highlight limitations and clinical applications of my work. A Meta analysis discussion is also reported in the chapter.

## 5.1 Summary of findings and discussion

This section is divided in three parts related to my research questions: *participation, interaction style, and transferability.*

### *Participation*

 All the three mothers who attend the program with their child actively participated during the sessions although they did not receive any specific instruction at the beginning of the program and during the sessions. What emerged from these cases is that while parent involvement happened quite naturally, the type of participation and its rate was different from case to case.

While Giulia and Federico's mothers followed more the therapist and actively participated at the activities (*Graph 1* and *15*), Fabio's mother participation was more consistent in the initiative domain (*Graph 8*). This could be understood as Fabio was more difficult to engage in the activities and reluctant in following the therapist. His mother has to offer him instruments as a way to call for his participation, which was usually short in time and physical. Improvisation (PI.I 1 & 2) became the main way to interact and engage with this child that often shown negative behaviours and whose socio-conversational ability were absent at the beginning of the program.

In case #1, Giulia, and case #3, Federico, the children were used to interact with their parents in musical activities, as reported on the first MEL questionnaire, and since their social-conversational abilities were more developed, and their interaction with the adult was positive, they were really easy to engage. Parents' initiative was less frequent during the sessions as they positively participate at the activities proposed.

Among the activities, songs were those that got major attention from the children and easily involve them in using their body or their voice to participate. Songs appositely selected for the program, were a successful tools not only to engage children, but also to elicit some speech and sign production. Child participation, that considered all the time that the child produces a sound (or word) or a gesture/movement with a meaning during an activity, was mainly elicited during songs. In all the three cases, despite for the different language skills and the number of event counted, children shown a higher percentage of participation in the subdomain of sounds imitation, imitations of a gesture/movement made by the therapist, and in singing. Children imitated more my gestures/signs than the parent's one. That was probably due to the fact that I was using songs that were new for the dyad, the child may have recognised that I was conducting the activity, and since I was clearer was easier for the child to see and follow me.

Parents' participation was surely influenced by my presence in the setting, from the child behaviour and from their confidence in participating vocally and physically in the sessions. Regarding this, Giulia's mother, commented on how her participation in the setting was conditioned by the fear of being untimely or intrusive during the activities, limiting in this way, her child's experience. She also added that she found important to feel safe and guided to active participate during the sessions. Therapist role was then perceived as a guide from this parent. When I think back at my work with these families, I recognize that my work as a therapist was that to facilitate parents in finding strategy to positively involve the child in the interaction, modelling for them rather than directing them. An important part of this modelling was represented by the discussion that happened in the last part of the session (5 to 10 minutes), where behaviours and strategy adopted during the session were discussed with the mother.

*Interaction Style*

One of the findings that were found across all three dyads concerned the way activities were proposed to the child and the interaction pattern that was used during the sessions. Parents recognized how a responsive style of interaction during play (either with instruments or songs) was related with a higher participation of the child at the activity and with less negative responses.

During the sessions I used music and songs in a flexible way, following the child interests and actions. My focus as a therapist in the setting was to engage the child in the activities proposed, but often, when children were not involved in the interaction or activity, I let them guide me and I followed their lead. This was perceived as successful from these parents as improved the attention of the child and his engagement in the interaction. Children were let free to express themselves in the setting, and their production were acknowledged and reinforced. What was reported from parents was that when directed and when involved in communication through the continuous use of questions their children were less participative and some negative behaviours were also described from some of them.

These findings reflect what is described in literature about the influences of parents' interaction style during toy play highlighting a similar pattern for musical activities. A directive style was found to correlate with less competent play behaviour and poor language outcomes  (Power, 2000). All three parents reported that when they asked their child to respond they become less participative, they got frustrated and stressed and they quitted the activity or the game soon.

Adopting a responsive style (Girolametto & Weitzman, 2002; see Chapter 2.4) instead had facilitated children responsiveness, as reported from these parents in the final questionnaire and interview. Parents perceived their children to be more involved: they did more as they did not feel under pressure and they repeated more words, generalizing the use of them even outside of the therapy context as reported from Fabio and Federico's mums, and being more spontaneous in using words in the different life contexts, which include musical activities like singing, but also verbal communications with family members.

A change in the communicative behaviour of children was reported from some of these parents: Fabio's mother found his son more communicative and less frustrated about speech, he also changed in the way he played, being able to remain for a longer time in an activity. He learnt new sounds and words during the program, and that helped him participating more positively in the interactions. Federico's mother reported that her son after the program had more desire to communicate and interact, and even if that could not be correlated directly with the program, surely a different attention in the interaction pattern with the child was paid by these parents after the program.

In using a responsive style many opportunities are given to the child to develop his communicative skills, and the attachment between mother and child is fostered (DeWolff & Van Ijzendoorn, 1997; Smith et al., 2006). In all my cases mothers were really happy to see a change in their children while participating at the program, and transferring the purposed activities at home, being able to have their children involved, happy and spontaneous, affected their perception of being with the child and playing with him. Although that was not measured or questioned directly to these parents, it can be speculated that when negative behaviours or attitude does not affect the participation of the child in the interaction, parents' expectations about social, emotional and intellectual domains, which can be very low sometimes in late talkers parents (Fischel, Whitehurst, Caulfield, De Baryshe, 1989), can be satisfied, with a positive outcome on the parent-child relationship.

The changes Giulia's and Federico's mothers described in the ways they interacted with their child during musical activities suggest that these parents made a change in the way they are while relating with their children. After attending the program they adapted what they had experienced in the music therapy settings at different daily situations, either musical or not. Similar results were found by Thompson (2012) when working with families with children with autism. Changes in parents' attitude may have facilitated the development of social conversational abilities of these children as noted in the

post-treatment ASCB questionnaire.

*Transferability*

Having parents directly involved in the settings, had certainly affected how music was used at home with the child. For two dyads (case #1 and case #2), music was used in a more consistent way after the program. What emerged is that not only parents gave more space and opportunity for music during the day, but also children asked for more music. This can be partially explained by the fact that more attention was paid by these parents on the musical activities after attending the program, but also by the fact that they changed the type and the way stimulus were presented to the child. Songs proposed during the program were selected as adequate for the language skills of the children, and since they were able to follow these songs quite immediately, children participation and interest increased.

The same songs were used at home by all the three families and shared with other family members demonstrating that the program could have a certain impact on the whole family. Moreover, strategies that parents had experienced in the setting were applied at other situations in everyday life, as reported from Giulia's mother, and helped distressed situations or difficult routines, not only with the late talker child, but also with her siblings.

In case #3, where the way music was used in the everyday context changed minimally, there was an important shift in the way music was proposed to this child: it was not longer a "passive" activity but an occasion to play together and to meet the child were he was. Instead of questioning him or asking him to respond while listening or singing a song together, he was left free to participate in the way he felt, with body and voice, and involved in the interaction positively. This was also found as a positive reinforcement from some of these parents.

What can be inferred is that this parent-child music therapy program had changed not only he quantity of music that is present in the everyday life of these families, but also the quality of the experience that is shared between parent and child, with a positive effect on the well-being of the dyad.

Overall, parents reported that they had benefitted in attending the program and they gained new strategies for communicating, involving their children, and for playing with them. These findings show that a form of empowerment for these parents happened through the music therapy program that not only had give them new hints, but also strengthen their confidence about their abilities and personal resources.

Similar findings are reported in other music therapy models that involve the family (Abad, 2008; Thompson, 2012), in which the role of the therapist is to offer a support to parents in families with different needs.

Music therapy methods that involve the whole family, could have an impact on both the parent's and the child's skills and development, as highlighted from other study in this field and is for that a powerful intervention that affects the child in his whole environment, with a stimulation that is more steady at it can happened everyday, characteristic that is extremely important for what concern the language development, considering the caregivers'' critical influence on the child language development (Hemmeter & Kaiser, 1990). The assessments of language development were not part of the results considered in the study, as the language development was not an aim of it, but it is interesting to notice that all the children involved in the study had an improvement on their socio-conversational abilities. Only one of the three children involved in the program had a language blooming during the program, development that cannot be correlated with her participation at therapy, although it can have influenced parts of the process, we cannot demonstrate how much this acquisition is linked to the program and how much at a natural evolution of the child's language. Similarly to what found by Dunst, Trivette & Hamby (2007) in a meta-analysis review on family-cantered practice it can be said that results of these interventions are not directly related to child development outcomes but "rather indirectly mediated by self-efficacy beliefs". Family-centred practices are considered to "have empowerment type effects (e.g., strengthened efficacy beliefs), and parents who feel empowered about their parenting capabilities are more likely to provide their children development-enhancing learning opportunities" (Dunst et al., 2007).

## 5.2 Reflections

Reflecting back on my practice, I understand how working with both parent and child influenced my role as a therapist. While in the setting in fact, I had to focus on the child needs but also on the parents providing them with models, suggestions, and explanations that had to be clear, respectful and adjusted to the parent's perception and emotional state. I recognize that I tried to operate as a "model", acknowledging at the same time, the parent's knowledge about her child. This also facilitated me in engaging the child, being in contact with him/her and understanding his/her communication. Parents also had a double position in the therapy setting: as facilitator for the therapist to get in contact with the child, giving him/her a secure point from where they can start to explore and participate, and as "participant observers" as they received, from the therapist, hints and ideas on how interact and play with their child.

Music therapy activities were, in my opinion, very positive for facilitating these children in participating at a communicative exchange and interact, in a fun and enjoyable way, with their parents and with me. In the setting very rarely there was a pressure or a solicitation to speech, and what happened is that children used their voices quite spontaneously when music activities, especially songs, were proposed.

Giulia's mother during the follow-up interview, added something important about her feeling as a

parent in the setting when she said that "*Even if I known I was attending a music therapy program for language development I was not thinking at what my child was saying. I looked at her face, seeking to catch her emotions. That takes away the performance anxiety that parents live in what their child do or not do. Children on contrary, do more if they do not feel under pressure*"

One of my assumption in this work indeed was that while toy play activities are mainly guided by speech and consequently parents attention and requests to their child would consistently pass through the language channel, there is the chance in music to pay much less attention at the spoken language, and more at other communicative exchanges, as described by the various bibliography that discuss the role of music in creating communication and interaction.

These exchanges are relevant as they form the foundation of the language itself (like the capability of initiating a communicative act, to maintain joined attention and eye-to-eye contact, to participate at a turn-taking exchange) and of the reciprocity between parent and child. Often these aspects are not fully mature in late talking children, or the pattern of interaction is strongly un-balanced in favour of the adult partner of the communication which "direct" the exchange (Tannock & Girolametto, 1992), thus is very important to give these children with occasion to be good communicators even before that their vocabulary blooms.

When children get better, as happened with Giulia, their needs change and so has to do our approach in music therapy. Overcoming the language delay often, from my experience, it does not mean that the language acquired by the child is compared with that of his/her peers: a phonological disorder or morphosyntactic disorder can succeed at the language delay, making need for this children to attend a speech and language therapy program.

What happened with Giulia during our session is that she started to participate less in the events that were counted as important to understand child participation (See *table 4*), as she used her voice more to communicate outside the activities than inside them. She kept on singing and participating when I proposed songs, but in musical games, where I prompted these children to reproduce simple sounds or gestures and signs, she seems to gradually loose her interest as her speech abilities got better. Her language overcame that phase in which sounds replace words and sentences, so what I can speculate is that this kind of activities became boring and less attractive for her. As therapists, is important to recognize this shift so we can change and adapt our proposal at the new situation, following the child through new aims. At a research level when that jump happen, we might have to considerate to change our glasses and look for something more or something different as the child would surely change his/her participation shifting from being a late talker to a new conditions that can be either on the normal range or characterized by a language impairment.

## 5.3 Discussion of method and analysis

One of the limitations of this work is that I was both the therapist and the researcher and so my findings can be biased by my dual role. This can potentially have influenced both my observations and analysis and the responses obtained from parents during the follow-up interview and on questionnaires. Participant bias could not be estimated but the fact that parents knew the purpose of the study, and that I was also the person who collected data from them, could had influenced their responses.

I was also working as a music therapist but surely my formation as a speech and language therapist influenced the way I worked in a way that could have impacted the way sessions were conducted and the expectations of parents who participate at the program.

Since my dyads were all different from each other, my original idea to follow a step-by-step procedure through the sessions left the place to an approach that was open to sustain the specific needs of each family at each moment. This had certainly facilitated child and parent in their participation, but at the same time, resulted in proposing different activities among the sessions for the three families. Patterns of participations were surely influenced by the activities proposed, so a more detailed analysis or a more rigid program could had given a better indication on the pattern of child's and parent's participation.

My analysis was done on the video that I registered with a steady camera placed in the setting. A limitation is represented by the quality of the audio and video and for the single angle that the camera offered. Two cameras angles would have facilitated the observation of the child's as well as the parent and therapist's musical and gestural contributions to the interplay, as suggested by Holck (2007).

The video analysis was conducted by myself without a second observer trained in counting events. I tried to establish reliability doing a first analysis on case#1 twice before going further with the other analysis. All the video material was observed on two consecutive days to minimize possible errors, but I did not have the opportunity to have a second observer for building an inter-observer agreement.

An expectancy effects could also had played a role in focusing my attention on events, even if I tried to be as objective as I could while coding event during the analysis.

Construct validity was tried to be established using different methods of collecting data, which, however, could had be influenced by different internal and external factors.

In reporting data gathered from the final questionnaire and follow-up interview for example, I tried to be as accurate as possible but I have to recognize that the translation process form Italian to English could had represent a potential threat to the validity of my findings as well as external factors (i.e. school program that involved parents, music or parenting program concomitant at my intervention) could have change the way dyads participated and responded.

External validity, which concerns the degree to which my findings can be generalized, it is also conditioned by the situation presented in the study in which participated an exiguous number of families with similar characteristics (represented by Italian mothers and their children, with no cultural-social or economic disadvantages, living and coming from the same cultural context) and by the fact that we cannot weigh how, being a speech and language therapist, had affected my music therapy approach.

## 5.4 Metatheoretical discussion

In my study I used a hermeneutic approach where my preconceptions and knowledge were continuously shaped in the process of understanding the situations I encountered through the knowledge gained from literature, from the analysis of my data and from the new perspectives that matured within the study process.

I like to think at the process that I encountered during this work using the image of "tree of knowledge"*(Image 2)* firstly used by Kenny (1998) as a metaphor of the connection between our philosophies, theory, method and data. Philosophy is in this three at the root of the knowledge:

> *"Whenever we discover new things, our discoveries are rooted and influenced by our philosophies. Our philosophies inform our theories, being the trunk, the maps we create to understand phenomenon. These maps guide us in our practice. The data, which we accumulate as the result of our research methods, is the fruit of our efforts, the manifestation of the long process, which began deep inside the earth. (...) Ultimately, the data returns to the earth, which in turn, nourishes the roots of the tree of knowledge for seasons to come. This last point is very important. We do not operate in isolation. The results of our studies cause us to reflect deeply on our practice. (Kenny, 1998, p. 213-214)*

This last point was particularly true for me. Going back on the videos when the therapy was over, gave me the opportunity to see patterns of interactions and behaviour of which I was not aware of at the beginning of the work. Video analysis opened my eyes on the parents' behaviour and role, making me realize how my attention to them in the setting was conditioned by the focus on the child.

Image 2. The tree of knowledge (Kenny, 1998).



The Tree of Knowledge
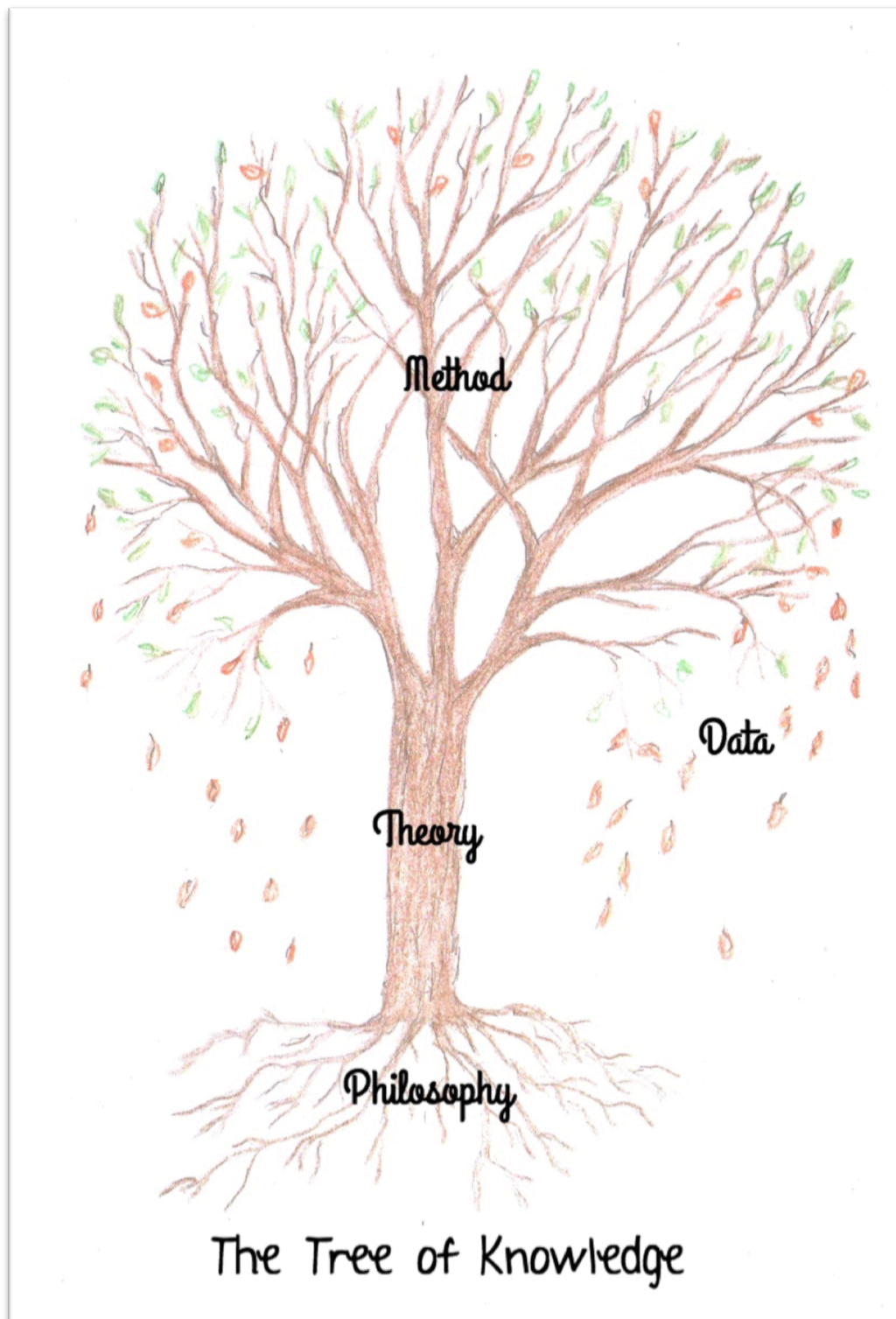
Being both the researcher and the therapist gave me an important occasion to reflect on my role as a therapist and to reflect on the influences of my dual practice on my actions and perceptions during the therapy. With this work I could dig into my approach and therapeutic stance becoming more aware of my actions, behaviours and of my position while working with families of late talking children.

In the music therapy trio made of child, parent and therapist there was a fluid and continuous exchange of roles that had to be acknowledged: modelling, leading and following were propensities that flown between all the participants in the trio and, as a therapist, I found important to be sensitive of these "web" of interactions.

Although my pursue was not to find an universal truth, the knowledge that I developed during this journey, will surely inform the way I will work with families in therapy and my understanding of the world of the research.

## 5.5 Clinical applications

The present study aims to open a new window on the application of the music therapy at the work with families of late talking children. A relevant starting point is to understand and highlight how, as music therapists, we might contribute at the treatment of these children with a view on prevention and on early intervention. Traditionally the intervention with this population reckon on a "wait and see" approach (Paul 2000; Whitehurst & Fischel, 1994) which does not address behavioural and relational aspects of the relationship between the late talker child and his/her parents. These aspects could be the focus of our intervention in music therapy. From my study I understand how in music we have the opportunity to work on the interaction between parent and child, reducing the pressure that is present when communicating verbally with these children, creating new pattern of interaction using music and musical activities.

My approach gave me interesting insight on how we can facilitate the interaction using a responsive style while musically communicating with the child and playing with him/her, but at the same time I recognize the limitation of it when the child starts to develop his/her language skills. When children moved from a very little vocabulary to a rich production of worlds and phrases, our approach has to change to meet the child's new abilities and consequent needs. In doing this being in partnership with a speech and language practitioner could be helpful in establishing new goals and shared aims.

Working with this population means in my opinion as a dual practitioner that we are always on the border with the field of the speech and language therapy. Only if we recognize our limits and acknowledge the other professionals' knowledge, and we work collaboratively, we can make the difference for our patients and for their families.

## 5.6 Suggestions

To reduce the limitations of this study and improve its reliability it can be taken into consideration to have a different person that carries over the follow-up interview, collects pre and post questionnaire and participates at the analysis of data. It could be interesting, especially for music therapists that are not trained in language, to include a speech and language therapist. This could be helpful not only in

assessing and identifying the needs and aims of each specific dyad, but also in establish new ways to operate and collaborate between the two fields.

In my study, what happened is that the mothers took active part in the program (attending all the sessions and colloquies) while fathers did not. This is quite common in the Italian familist culture where a 'traditional' gender division of the roles still persist, and mothers are the main contributors of housework and childcare (Ruspini, Tanturri, 2016).

Nevertheless research suggests that fathers also play important affective and educative roles that contribute to the child development (Cabrera, Shannon & Tamis-LeMonda, 2007; Carlson & Magnuson, 2011) so they role in sustaining the language development must be taken into account. Several studies show that fathers communicate with their children differently than mothers (Gleason, 1975; Rowe, Coker & Pan, 2004; Tomasello, Conti-Ramsden & Ewert, 1990). Compared to mothers, they produce more directives, more often request clarification of their children's utterances, and ask more questions, particularly wh-questions (Gleason, 1975; Leaper, Anderson & Sanders, 1998; Masur & Gleason, 1980; McLaughlin, White, McDevitt & Raskin, 1983; Rowe et al., 2004 Tomasello et al., 1990). Those characteristics suggest that fathers are more demanding or challenging conversational partner for young children requiring the child to be able to communicate at a higher level (Le Chanu, Marcos, 1994), a level that is not accessible for late talking toddlers.

Thus further research could also include dyads made of father and child to see possible differences in father responsiveness and interaction style, and also if music facilitate fathers participation and modification during the interaction with the child.

Another dimension that can be interesting to observe is related to the status of the family and on its composition. At-risk families, families from different cultural background, adoptive and foster families, families with a single parent or same-sex families, could show different pattern of interaction and care of the child but also different beliefs or educational style that can influence the way parents play, interact and invest in the child.

As parenting roles and families are slightly changing and modifying in our modern society we could open our view and our observation to all the different shades that the word family could include.

## CONCLUSION

The present work aims to understand how a music therapy parent-child intervention can empower parents of late talking children in the use of music to enhance communicational skills and promote the participation of their child at a shared music activity.

During the sessions parents' participation was present in all the three dyads, with a predominance of active participation following the therapist in the two cases where the child was easy to engage in the activity. In the third case, where the support of the parent was needed to get the child involved, more parents' initiative events were counted, and the therapist followed the dyad giving a frame to the parent's initiative.

Understanding the exchangeable role of therapist and parent in the setting facilitate the vision of a fluid dimension in which the role of the therapist is to give a model usable for the parents and the child in the everyday contexts. At the same time parents can facilitate the therapist in understanding the child and improve his/her participation at the activities.

Parents' active participation following the therapist and personal initiative, are therefore both present and important for the child's involvement.

Responsiveness was seen as a facilitator of the interaction by these parents who found it less difficult to engage their children in playing in adopting a responsive style. Hence as therapists we can offer a responsive model while interacting with the child in the setting. We can discuss it with parents and help them generalize their use of music in the everyday life.

Musical activities were found pleasurable for both the child and the parent, which made it easier to transfer them from the music therapy setting to the home setting. In music therapy there was also a possibility to inspire those parents in using music in a different way, making it an occasion to play rather than a listening activity. Understandings gained from this study are just a preliminary reflection on music therapy applied to late talkers children and their families but is it a starting point for further research in this field.

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# APPENDICES

## Appendix i. Song book in Widget symbols example.



Whisky il ragnetto | sale | la | montagna

ma | piove

si bagna | e | Whisky | cade | giù | giù | giù

Ma | dopo | esce | il | sole

e | Whisky | si è asciugato

lui | sale | la | montagna

e | va | sempre più | su, | su | su

Lassù | sulla | montagna

c'è | una | casetta

con | una | streghetta

che | se | lo | vuol | mangiar | am | am

ma | Whisky | è | molto | astuto

lui | scende | la | montagna

e | va | dalla | sua | mamma

e | non | la | lascia | più | più | più
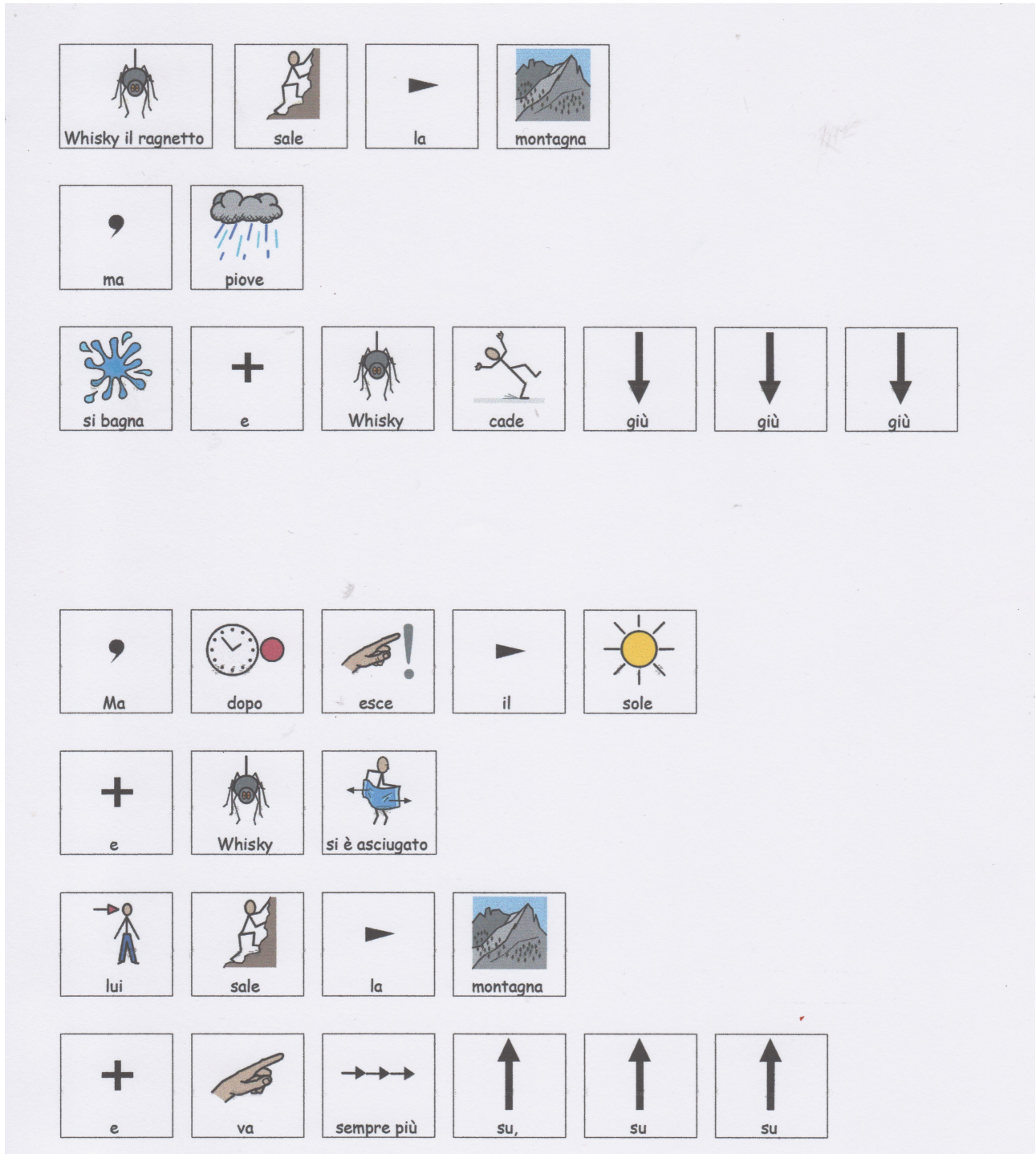
## Appendix ii. Video analysis codes detailed description.

| PARENT'S ACTIVE PARTICIPATION | DESCRIPTION | CODE |
|---|---|---|
| **Starts singing following the therapist to engage her child** | Therapist starts singing a song or improvised a song and the mother sings with the therapist without being formally asked to do it | **AP.S** |
| **Starts playing following the therapist play** | Therapist starts playing an instrument on a song or during an improvisation and the mother plays with the therapist keeping the beat and/or following the dynamics change in the music. Parents where not verbally invited to play, but they received instruments at the beginning of the activity. | **AP.P** |
| **Copies therapist movement on the music** | The therapist moves on the music and the parents copied her movements. | **AP.M** |
| **Follows songs "direction" imitating the therapist** | When the therapist presented a song that explicitly call for actions (stand up, clap your hands, stamp your feet etc.) or gesture (imitating an animal or an action) the parent copied the therapist action. Direct instructions are present in the song's lyrics (e.g. "move your hands to the right") | **AP.SD** |
| **Does a movement/gesture/sign/sound inspired from the content of the song, imitating the therapist** | The therapist presented a song that has in the lyrics actions or things that is possible to imitate with a movement, a gesture/sign, a sound. Inspired by the song the parent makes a movement, a gesture/sign or a sound that the parent copied. (e.g. "the spider climb the mountain and he goes up up up[move the hand up]"; "the duck says *quack quack quak* [with the hand mime the duck's beak]). | **AP.SI** |
| PARENT'S INITIATIVE | DESCRIPTION | CODE |
| **Starts singing by her own to her child without being invited while the therapist is playing an instrument.** | Parent starts singing a song or a verse meanwhile the therapist is not singing but she is playing an instrument. | |
| | A song/verse previously presented by the therapist (during the same session or in another session) | **PI.S1** |
| | A song/verse that shares with her child | **PI.S2** |
| | An improvised song/verse to call her child attention (emphasizing child's movement or vocalization/speech production, calling her child) | **PI.S3** |

| | | |
|---|---|---|
| **Starts singing by her own to her child without being invited while the therapist is not playing/singing.** | Parent starts singing a song or a verse meanwhile the therapist is **not** singing or playing an instrument. | |
| | A song/verse previously presented by the therapist (during the same session or in another session) | **PI.S4** |
| | A song/verse that shares with her child | **PI.S5** |
| | An improvised song/verse to call her child attention (emphasizing child's movement or vocalization/speech production, calling her child) | **PI.S6** |
| **Improvises on an instrument to call her child attention/engagement** | Parent uses independently an instrument during the therapist improvisation/or musical activity (singing, playing with instruments) without being asked to participate at the improvisation/activity | **PI.I1** |
| | Parent uses independently an instrument to improvise while the therapist is **not** playing or setting an activity, without being formally invited to play | **PI.I2** |
| **Offers an instrument to her child** | Parent invites her child to play offering him/her an instrument during a song, an improvisation or a musical game | **PI.O1** |
| | Parent invites her child to play offering him/her an instrument outside a defined moment during the session (without the therapist structured an activity) | **PI.O2** |
| **Follows songs "direction" spontaneously** | When the therapist presented a song that explicitly call for actions (stand up, clap your hands, stamp your feet etc.) or gesture (imitating an animal or an action) the parent improvised a gesture/movement following the lyrics without being modelled by the therapist in that precise moment | **PI.SD** |
| **Does a movement/gesture/sign/sound inspired from the content of the song** | The therapist presented a song that has in the lyrics actions or things that is possible to imitate with a movement, a gesture/sign, a sound. Inspired by the song the parent makes a movement, a gesture/sign or a sound without being modelled by the therapist. | **PI.SI** |
| **Follows music with body movement or body percussion** | Parent keeps the beat or follows the music's dynamic using her body (swinging, jumping, moving arms and/or legs) or doing some basic body percussion (clapping hands, patting hands on lap etc.) without being invited to. | **PI.M** |

| CHILD BEHAVIOUR | DESCRIPTION | CODE |
|---|---|---|
| **Child imitates a gesture/sign** | Child imitates a gesture/sign with a meaning made by the therapist | **C.MT** |
| | Child imitates a gesture/sign with a meaning made by the parent | **C.MP** |
| **Child makes a gesture/sign independently** | Child reproduce a gesture/sign with a meaning during a song or an activity | **C.MA** |
| **Child sings** | Child sings a word or a verse during a song | **C.S** |
| **Child imitate a sound** | Child imitate a sound whit his voice during a song or an activity | **C.I** |

## Appendix iii. Diary example

Fabio. 7/10/2015 h. 9:15

*Has Fabio arrived in the setting today shown closeness and he refused to participate initially. He seemed to be quite asleep (his mother told me that he felt asleep in the care while travelling to my place). Both Fabio and his mother refused to took off their shoes when entered the setting (Fabio's mother told me that he never want to took his shoes off once he had wear them).*

*I started the session proposing them some instruments to accompany me during the 'hello song'. They did not participated. Fabio was hiding in his mother arms despite his mother wanted him to participate. At the beginning instruments aroused him a little interest, he observed them but he did not want to try them. His mum offered him some instrument but she was not successful. It seems to me that even his mother does not feel confortable in using them or in following me while I sing or play.*

*I cannot have Fabio attention before he decided to explore the setting. His interest is mainly focused on objects rather than on the interaction. With his mother the interaction his poor and mainly related to moments in which he seeks for safety and comfort and he needs her to reach objects that are not at his hands.*

*After 10/15 minutes in the setting he started to explore. He asked his mother to help him picking up all the drums he saw on the shelf. His mother brought them in the middle of the room where I was waiting for them on the carpet. They sat in front of me but Fabio didn't want to play. He wasn't engaged with me initially. Then he did a first hit on the lollipop drum and smiled. From then I started a call and response using the drums. Even if he was smiling his attention lasted for very short time. After few minutes he redirected his attention on the instruments' shelf. His attention in the interaction with me, during our 'game' and even on object appeared to be very little. He rushed from one thing to another but I must recognize that when he was in the interaction he was well connected with the other.*

*Late in the session (just before tiding up everything and closing the session) he tried all the instruments that I presented him initially in a little box that was still on the carpet besides me (just before tiding up everything and closing the session). While playing them he smiled at me. During this session I was not able to present them songs has Fabio needed time to get involved and participate and Fabio's mother seemed to be not confortable in using music in front of me.*

## Appendix iv. Parents' final questionnaire (translated in English)

Final questionnaire

Please answer the following questions adding your comments about the program you recent joined with your child. Answers will be discussed during our last appointment.

★ During the sessions you were invited to actively participate using voice, body and instruments, what was your feeling about it?

_____

_____

★ The activities carried out during the sessions were proposed later at home? If so, what it was the response of your child?

Was it easy to capture his/her attention and make him/her participate?

_____

_____

★ Compared to classic game activities (toy cars, dolls, construction etc.) do you think that the music activities had easily captured your child attention and his/her involvement?

_____

_____

★ Has it changed the way you use music in everyday situations with your child after the program?

_____

_____

★ Did you use the materials provided during the program (songs written in symbols and book of sounds) at home? if so in what context? (During play activities, before bed, in individual situations, along with brothers/sisters ...)

Did you find them useful?

_____

_____

★ Was it a positive experience for you and your child?

_____

_____

★ Did you find difficult to attend the program (hard to schedule the sessions in your weekly plan, difficulties regards the activities proposed difficulties in having your child involved, etc..)

_____

★ Would you suggest some modification at the program?

_____

_____

_____

★   Do you believe that this program would help develop communicative skills (joined attention, turn taking, participation, communicative intentionality) and language skills (vocabulary development?

_____

_____

★   If yes, what was for you the aspect that more helped in developing these competences?

_____

_____

★ Do you have any further feedback? ★

_____

_____

# Appendix v. Privacy consent (translated in English)

**"Music therapy intervention with late talkers"**

The present work is the focus of my Master thesis in music therapy at Aalborg University, Denmark. In this document the objectives and procedures for carrying out the study will be described.

I kindly ask you to carefully read the following information and ask for any other explanation in order to fully understand the significance of the study.

**Aim of the study**

The purpose of this study is to identify the benefits of a music therapy intervention for the parent-child couples where the child present delay in the onset of language is not associated with other conditions (syndromes, hearing loss / deafness, neurological problems).

The objectives of the intervention are:

1. The strengthening of the early social communication skills (shared attentiveness; interpersonal engagement; affect attunement; joint attention; and emergence of language and gestures).
2. The strengthening of listening skills;
3. Stimulating parents in the use of music as a tool to foster interaction and relationship with the child in the everyday context.

Parents will be provided with practical hints for using music as a vehicle for the stimulation of the early social communication skills outside the music therapy setting.
Participation in the study is voluntary and free. The family has the right to stop participating in the study at any time.

**How to participate**

There are three progressive stages of involvement: each family can decide whether to stop at the first, second or attend all three. **Note that only the first phase will be considered in this study. Information collected in the successive phases could be use for scientific purposes.**

FIRST PHASE: PARTICIPATION IN THE STUDY.

If you agree to participate, you will be asked to sign the informed consent form. The participation at the study implies:

a) An initial meeting where the child's medical history and family history are collected, together with the questionnaire provided by e-mail prior the meeting date;
b) Weekly participation at 8 individual music therapy sessions parent-child (about 30 min.)
c) A final meeting for collect post intervention questionnaire and parent's interview (about 45 min., if possible with both parents);
d) The compilation of pre and post questionnaires on child's language and on the use of music in the everyday life.

The first phase of the study will last two months (from September 2015 to November 2015, for a total of 10 meetings). Sessions lost will not be recovered.

**STEP TWO: FOLLOW UP A DISTANCE OF 3 MONTHS**

The family may consent or not - choosing the option on the informed consent form – for the participation in the second phase of the study which provides n. 1 follow-up with the family and the child at a distance of **three** months from the end of the study. The meeting will be divided into two parts:

a) Questionnaires collection (same as in phase 1) and a colloquy with parents;

b) Observation of the parent-child couple in the music therapy setting.

The meeting lasts about 60 minutes. It requires the presence of the parent who has actively participated in the first phase of the study.

**STEP THREE: FOLLOW UP AT 6 MONTHS**

The family may consent or not - choosing the option on the informed consent form – for the participation in the second phase of the study which provides n. 1 follow-up with the family and the child at a distance of **six** months from the end of the study. The meeting will be divided into two parts:

a) Questionnaires collection (same as in phase 1) and a colloquy with parents;
b) Observation of the parent-child couple in the music therapy setting.

The meeting lasts about 60 minutes. It requires the presence of the parent who has actively participated in the first phase of the study.

**Description of the music therapy sessions**

Music therapy sessions are organized into three distinct phases: an initial greeting phase, middle phase, where activities and musical games are presented, a greetings phase + sharing information about the session with the parent. During the sessions will be propose: musical improvisations, either instrumental or vocal, musical games and songs. Puppets and figurative materials will be use to illustrate and animate songs. Parent and child will be welcome to be actively involved in the activities.

**What does participating in the study imply:**

Participation in the study is voluntary and free. It does not imply any restrictions for the family in the participation to other therapeutic interventions, which should be in any case disclosed if they take place simultaneously to the present study.

**Privacy policy**

All information collected in this study will be treated in compliance with Italian laws on the protection of personal data (Legislative Decree no. 196/2003). Data can be conserved for a maximum period of 10 years after which they will be destroyed.

Data could only be used under permission given signing the following consent.

While participating in the study of music therapy sessions will be videotaped in order to be analyse subsequently for my thesis. These recordings, as well as the data and information collected with questionnaires and interviews with parents, will be used to document the findings of this study. They could also be shared with the scientific community for informative or educational purposes ensuring the privacy and anonymity of the families involved.

**"Music therapy intervention with late talkers"**

Privacy consent

The undersigned _____  _____ as parents / caregivers

of _____ we were informed by Giulia Fedrigo on the following points:

Under Article 13 of Legislative Decree. 30/06/2006 n ° 196, I was also informed by Giulia Fedrigo that:

1. Data will be used for documenting the Master's thesis in Music Therapy at the University of Aalborg;

2. The audio / video recordings of the sessions will be personally used by Giulia Fedrigo as a documentation for the Master degree in Music Therapy at the University of Aalborg, they may also be used for scientific and educational purposes;

4. Data will be conserved in paper and digital file, they will be processed using methods that guarantee security and confidentiality;

5. We have the right to obtain the confirmation of the existence of our data, their cancellation, or anonymization

6. The provision of data is not mandatory, although it is essential for participation in the study, and therefore, in the absence of consent, you can not participate.

Signing this document, we confirm our consent to the use of our personal data for the purposes described above.

Place and date: Verona _____ / _____ / _____

*Signatures of both parents / caregivers*

_____                        _____

CONSENT (**OPTIONAL**) FOR THE PARTICIPATION AT THE NEXT PHASES OF THE STUDY :

We consent to the participation at the 2nd PHASE of the study          ¢YES ¢NO

We consent to the participation at the 3rd PHASE of the study    ¢YES ¢NO

*Signatures of both parents / caregivers*

_____                        _____

## Appendix vi. Pre and post language questionnaires' results for the three children

| GIULIA | | |
|---|---|---|
| **MacArthur Questionnaire** | < 10° percentile (for 30 months of age) | Within the normal range for 30 months of age (score for 36 months are not available) |
| **ASCB Questionnaire** | Assertive scale: Emergent (2) Responsive scale: Emergent (2) | Assertive scale: Developed (3) Responsive scale: developed (3) |

| FABIO | | |
|---|---|---|
| **MacArthur Questionnaire** | < 10° percentile (for 30 months of age) | < 10° percentile (for 30 months of age) |
| **ASCB Questionnaire** | Assertive scale: Absent (1) Responsive scale: Absent (1) | Assertive scale: Emergent (2) Responsive scale: Emergent (2) |

| FEDERICO | | |
|---|---|---|
| **MacArthur Questionnaire** | < 10° percentile (for is age) | < 10° percentile (for is age) |
| **ASCB Questionnaire** | Assertive scale: Emergent (2) Responsive scale: Developed (3) | Assertive scale: Developed (3) Responsive scale: Developed (3) |

## Appendix vii. MEL questionnaire responses for CASE #1.

|  | PRE: 28/09/2015 | POST: 03/12/2015 |
|---|---|---|
| **Question 1**<br>*In the past week, how often have you sung with your child?* | Every day | Every day |
| *1.a How do you think your child overall responded to your singing* | Very positive | Very positive |
| *1.b Was it a positive or a negative experience for you?* | Positive. We often sing along with her sister and every day for the nap and for cuddles | Positive, I like singing with my daughter specially now that she starts singing with me |

|  | | |
|---|---|---|
| **Question 2**<br>*In the past week, how often have you played musical instruments with your child?* | Never | One day |
| *2.a How do you think your child overall responded to playing with instruments with you:* |  | Very positive |
| *2.b Was it a positive or a negative experience for you?* |  | Positive experience for both of us. My child was very purposeful, she "direct" the game |

|  | | |
|---|---|---|
| **Question 3**<br>*In the past week, how often have you listen to music with your child?* | Every day | Every day |
| *3.a How do you think your child overall responded to listening to music with you:* | Somewhat a positive experience | Somewhat a positive experience |
| *3.b Was it a positive or a negative experience for you?* | Positive, it let me think at holidays or other things/event that I can recount | Positive. Listening "adult's" music or children's music puts me in a good mood |

|  | | |
|---|---|---|
| **Question 4**<br>*In the past week, how often have you played with music applications on a smart phone or tablet with your child?* | Never | One day |
| *4.a How do you think your child overall responded to playing a music application with you:* |  | Somewhat a positive experience |
| *4.b Was it a positive or a negative experience for you?* |  | Positive. We "play" the guitar on the Nintendo of Giorgia's sister, the 3 of us. Competing to see who was playing louder/faster |

| **Question 5** Do any family members currently play a musical instrument as a hobby or a profession? | NO | NO |
|---|---|---|
| **5.a** In the past week, how often have you and/or other family members played their instrument in front of, or with, your child? | | |
| **5.b** how do you think your child overall responded to playing a music application with you: | | |
| **Comment** | | |

| **Question 6** In the past week, what type of music has your family listened to? | | |
|---|---|---|
| Cultural heritage | never | never |
| Classic | never | never |
| Jazz | never | never |
| Children | almost every day | almost every day |
| Pop | almost every day | every day |
| Relaxation | never | a couple of days |
| Dance | never | never |
| Other | / | / |
| Comments: | / | / |

| **Question 7** Our family uses music (singing, listening, playing) in different ways, in order to help my child: | | |
|---|---|---|
| Calm down | a couple of days | a couple of days |
| Meal time | never | a couple of days |
| Bed time | every day | every day |
| Daily routine | a couple of days | every day |
| Enjoyment | almost every day | almost every day |
| Exercise | never | never |
| Transitions | never | a couple of days |
| Learn | almost every day | a couple of days |
| Travel | almost every day | every day |
| Comments | / | It is difficult to quantify, often music is used following the "needs" or to accompany daily routines |

| Question 8 | | |
|---|---|---|
| *If you have any other comments regarding your child's response to music, please add them here:* | / | Sometimes she starts singing |

## Appendix viii. MEL questionnaire responses for CASE #2.

|  | PRE: 06/10/2015 | POST: 03/12/15 |
|---|---|---|
| **Question 1**<br>*In the past week, how often have you sung with your child?* | never | a couple of days |
| *1.a How do you think your child overall responded to your singing* |  | somewhat a positive experience |
| *1.b Was it a positive or a negative experience for you?* |  | positive: he try to follow me singign with sounds that are similar to the song lyrics |

|  | | |
|---|---|---|
| **Question 2**<br>*In the past week, how often have you played musical instruments with your child?* | never | a couple of days |
| *2.a How do you think your child overall responded to playing with instruments with you:* |  | somewhat a positive experience |
| *2.b Was it a positive or a negative experience for you?* |  | positive: even after a first enthusiastic moment he got quickly tired |

|  | | |
|---|---|---|
| **Question 3**<br>*In the past week, how often have you listen to music with your child?* | never | every day |
| *3.a How do you think your child overall responded to listening to music with you:* |  | very positive |
| *3.b Was it a positive or a negative experience for you?* |  | positive: he dance! |

|  | | |
|---|---|---|
| **Question 4**<br>*In the past week, how often have you played with music applications on a smart phone or tablet with your child?* | never | never |
| *4.a How do you think your child overall responded to playing a music application with you:* |  |  |
| *4.b Was it a positive or a negative experience for you?* |  |  |

| Question 5 | | |
|---|---|---|
| Do any family members currently play a musical instrument as a hobby or a profession? | NO | 1 person: flute |
| 5.a In the past week, how often have you and/or other family members played their instrument in front of, or with, your child? | | a couple of days |
| 5.b how do you think your child overall responded to playing a music application with you: | | very positive |
| **comments** | | |

| Question 6 | | |
|---|---|---|
| In the past week, what type of music has your family listened to? | | |
| Cultural heritage | never | never |
| Classic | never | never |
| Jazz | never | never |
| Children | a couple of days | almost every day |
| Pop | never | one day |
| Relaxation | never | never |
| Dance | never | a couple of days |
| Other | never | / |
| Comments: | / | / |

| Question 7 | | |
|---|---|---|
| Our family uses music (singing, listening, playing) in different ways, in order to help my child: | | |
| Calm down | never | never |
| Meal time | never | never |
| Bed time | never | never |
| Daily routine | never | never |
| Enjoyment | never | almost every day |
| Exercise | never | never |
| Transitions | never | never |
| Learn | never | a couple of days |
| Travel | almost every day | every day |
| Comments | / | / |

| Question 8 | | |
|---|---|---|
| *If you have any other comments regarding your child's response to music, please add them here:* | / | / |

## Appendix ix. MEL questionnaire responses for CASE #3.

|  | PRE: 24/09/2015 | POST: 03/12/2015 |
|---|---|---|
| **Question 1** <br> *In the past week, how often have you sung with your child?* | almost every day | almost every day |
| *1.a How do you think your child overall responded to your singing* | somewhat a positive experience | somewhat a positive experience |
| *1.b Was it a positive or a negative experience for you?* | / | positive: I enjoy and I am happy when Francesco is happy |

|  | PRE: 24/09/2015 | POST: 03/12/2015 |
|---|---|---|
| **Question 2** <br> *In the past week, how often have you played musical instruments with your child?* | a couple of days | a couple of days |
| *2.a How do you think your child overall responded to playing with instruments with you:* | somewhat a positive experience | somewhat a positive experience |
| *2.b Was it a positive or a negative experience for you?* |  | positive |

|  | PRE: 24/09/2015 | POST: 03/12/2015 |
|---|---|---|
| **Question 3** <br> *In the past week, how often have you listen to music with your child?* | every day | every day |
| *3.a How do you think your child overall responded to listening to music with you:* | somewhat a positive experience | somewhat a positive experience |
| *3.b Was it a positive or a negative experience for you?* | positive: we sing and dance together | positive |

|  | PRE: 24/09/2015 | POST: 03/12/2015 |
|---|---|---|
| **Question 4** <br> *In the past week, how often have you played with music applications on a smart phone or tablet with your child?* | a couple of days | never |
| *4.a How do you think your child overall responded to playing a music application with you:* | somewhat a positive experience | / |
| *4.b Was it a positive or a negative experience for you?* | / | / |

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| **Question 5**<br>*Do any family members currently play a musical instrument as a hobby or a profession?* | 1 person guitar;<br>2 person keyboard | 1 person: guitar |
|---|---|---|
| **5.a** *In the past week, how often have you and/or other family members played their instrument in front of, or with, your child?* | one day | one day |
| **5.b** *how do you think your child overall responded to playing a music application with you:* | somewhat a positive experience | somewhat a positive experience |
| **comments** | / | / |

| **Question 6**<br>*In the past week, what type of music has your family listened to?* | | |
|---|---|---|
| *Cultural heritage* | one day | almost every day |
| *Classic* | never | never |
| *Jazz* | never | never |
| *Children* | a couple of days | a couple of days |
| *Pop* | almost every day | almost every day |
| *Relaxation* | never | never |
| *Dance* | almost every day | never |
| *Other* | almost every day (rock, Italian pop) | / |
| *Comments:* | / | / |

| **Question 7**<br>*Our family uses music (singing, listening, playing) in different ways, in order to help my child:* | | |
|---|---|---|
| *Calm down* | never | never |
| *Meal time* | almost every day | never |
| *Bed time* | a couple of days | never |
| *Daily routine* | never | never |
| *Enjoyment* | almost every day | a couple of days |
| *Exercise* | never | never |
| *Transitions* | never | never |
| *Learn* | a couple of days | a couple of days |
| *Travel* | almost every day | almost every day |
| *Comments* | / | / |

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| Question 8 | | |
|---|---|---|
| *If you have any other comments regarding your child's response to music, please add them here:* | / | / |