Evaluating the Effectiveness of Theraplay®
in Treating Shy, Socially Withdrawn Children

Herbert H. G. Wettig, Dipl. Psych., Clinical Psychologist
Obere Burghalde 42, D-71229 Leonberg, Germany
phone ++49-(0)7152-27061, fax ++49-(0)7152-22602
e-mail Herbert.Wettig@t-online.de
e-mail herbert.wettig@theraplay-institut.org
www.theraplay-institut.org

Ulrike Franke, SLP, RPT-S
Phoniatric Paedaudiologic Center
Heidelberg, Germany
private address: Mozart Str. 1, D-68723 Oftersheim, Germany
phone ++49-(0)6202-54051, fax ++49-(0)6202-54958
e-mail Franke.Theraplay@t-online.de or Ulrike.Franke@bfw.srh.de

Kevin O’Connor, PhD, RPT-S
Alliant International University
California School of Professional Psychology
5130 E. Clinton Way, Fresno, CA 93727
559-253-2273
koconnor@alliant.edu
ABSTRACT

Theraplay is an interactive form of short-term play therapy that incorporates the dynamics of a “healthy mother-child relationship” such as structuring, challenging, engaging, nurturing, and attachment. Additionally, Theraplay therapists use interpersonal contact and touch in joyful interactive play. The therapeutic objective is to improve the social interaction ability of infants and toddlers and, in this study, to prepare them for the subsequent treatment of their communication disorders.

Two research studies are reported: 1) a controlled, longitudinal study (CLS), and 2) a Multi-Center Study (MCS). Both were designed to evaluate the effectiveness of Theraplay. The CLS, initiated in 1998, was conducted in one region of Germany, and includes an accumulated sample of 60 clinically conspicuous infants and toddlers diagnosed as having both communication and behavior disorders. All were treated using Theraplay. In a follow-up study 29 of the 60 children were evaluated to measure the lasting effects of Theraplay two years after discharge from individual treatment. This article reports the results of a selected sample of 22 of the 60 treated children who manifested clinically significant shyness and co-morbid communication disorders. They are compared with a control sample of 30 clinically unobtrusive children, matched for sex and age. The MCS, initiated in 2000, was conducted in 9 different institutions in Germany and Austria. The sample consists of 251 randomly selected children whose Theraplay treatment was completed during the years 2000-2003. Reported are the results on 125 of those children diagnosed with communication disorders and clinically significant shyness. When therapy began each child was markedly impaired. The results of both studies show that after treatment with Theraplay the target symptoms were both clinically and statistically reduced. In each study about 18, 30-minute sessions were needed to achieve the desired therapeutic outcome.

Key words: behavior disorders, communication disorders, language disorders, longitudinal studies, multi-center studies, play therapy, short-term therapy, shyness, social interaction, timidity, Theraplay
INTRODUCTION

Shyness is not classified as mental disorder in the DSM-IV (APA, 1994) or the ICD-10 (WHO, 1992). However, it may be concluded from neurobiological (Damasio, 1999; Schore, 1994, 2003; Spitzer, 2002) and neuropsychological (Hughes, 1998; Melamed & Wozniak, 1999; Siegel, 1999) research in recent years that childhood shyness may have severe consequences. These include affect dys-regulation, anxiety, depression, lack of self-confidence in social interaction, and particularly communication disorders, e.g. receptive and expressive language delays, often followed by learning disorders in school (Donahue, Hartas, and Cole, 1999; Prizant, 1999; Ishii-Jordan & Maag, 1999).

The results of two studies, conducted in Germany and Austria, show how symptoms of shyness such as being socially withdrawn, having low self-esteem, attention deficits, and being unwilling to cooperate can be significantly reduced using a short-term therapy called Theraplay.

Theraplay

Theraplay (Jernberg, 1979) is an interactive short-term play therapy derived from the work of Austin Des Lauries (1962). It differs from his work in that the therapist is more intrusive and takes more responsibility for the progress of the play sessions. It is characterized by attachment, empathic behavior, interactive play, interpersonal eye and body contact, and touch. The therapeutic intervention is based on the principle of replicating a “healthy parent-child relationship” (Jernberg, 1979, German version 1987; Jernberg & Booth, 1999, p. 33) by imitating the active, structuring, challenging, engaging, playful, and nurturing ways in which parents or primary caregivers interact with their children. All these principles are used by “good enough mothers” (Winnicott, 1958) in the early development of children to build-up and modify their developing minds (Siegel, 1999) and, more specifically, the neuronal network in the orbito-frontal lobes of their brains (Schore, 1994, 2003; Spitzer, 2002).

Suitable Populations. Theraplay can be used to treat a variety of disorders from attachment disorders, attention deficit hyperactivity disorders, conduct disorders, (oppositional defiance and aggressive behavior), social interaction disorders, (social anxiety, shyness and timidity), pervasive developmental disorders to communication disorders (receptive language delay).
Therapeutic Objectives. The primary objective of Theraplay is to improve the social interactions of infants and toddlers. In Germany and Austria, it is also used to prepare children to enter treatment for their communication disorders (Franke, 1998). Generally, the aims of the treatment are dependent on the child’s needs. The main goal with shy children is to strengthen their self-confidence, their self-esteem, and build a feeling of self-efficacy while improving their social competence, and willingness to interact with others (Franke, 1999).

Intervention Method. Within a healthy parent-child relationship, parents structure their child’s every day life by setting boundaries and giving rules mediating security, in order to help the child to understand his or her environment. In Theraplay clear rules are given by structuring time and venue (Jernberg & Booth, 1999, p. 17).

Parents as well as Theraplay therapists offer playful challenges, so that the child may develop self-esteem and to enhance feelings of competence and self-efficacy. Challenges provide the frustration that makes it possible for the child to master tension arousing experiences. Theraplay teaches the child that playful combat, competition, and confrontation can release and focus pent-up tension and anger in a safe, direct, controlled way. Theraplay presents challenges by utilizing games like arm or leg wrestling, tug-of-war, and pillow fighting to name just a few (Jernberg, 1987, p. 36; Jernberg & Booth, 1999, p. 91).

Engaging activities entice children to engage with their caregiver, to maintain an optimal level of arousal, to learn where they leave off and the rest of the world begins, and to enhance experience of themselves as separate individuals. Engaging activities in Theraplay include peek-a-boo, counting freckles, hiding and seeking small objects, or any of a number of surprising, unexpected activities suggested by the child’s own actions (Jernberg & Booth, 1999, p. 90).

The purpose of nurturing activities is to communicate to children that they can get what they need without always having to work for it, deny the existence of the need, or be rejected for expressing the need. Nurturing activities generally include soothing, calming, quieting, and reassuring. Comforting activities include feeding, treating small injuries with lotion, massaging feet, and rocking the child while humming a song. These create a sense of emotional acceptance and the feeling of comfort and security (Jernberg & Booth, 1999, p. 91). “As a result the child learns to communicate, share intimacy, and enjoy interpersonal contact” (Jernberg & Booth, 1999, p. 18).
The recreation of a “healthy mother-child relationship”, as Jernberg (1979) is paraphrasing it, is the central goal of Theraplay. Neurobiological research of recent years let us understand the importance of the interpersonal interaction between child and caregiver in the very early processes of child’s developing mind (Siegel, 1999). The child’s capacity for healthy affect regulation depends on positive interpersonal experiences such as joyful play between mother and child that leads to the development of 1) neurons in the hippocampus (Spitzer, 2002), 2) the malleability of the orbito-frontal system, and 3) the intuitive thinking in the right hemisphere of the brain (Schore, 2003).

The use of touch is another characteristic of Theraplay. Jernberg (1979) observed and analyzed hundreds of parent-child relationships for their pattern of interaction (Munns, 2003). On basis of these observations she determined that mutual touch is a fundamental and essential building block of healthy development in the child. This hypothesis was later confirmed by several research studies done by Tiffany Field (1995).

**Setting.** Theraplay takes place in a room with little distraction, e.g. few, if any, toys. Child and therapist are the main “figures of the game” (Jernberg, 1987, p. 22). The Theraplay therapist transforms social interaction and interpersonal communication into the most important toy for the child. Materials like soap bubbles, lotion or cream, and animal-shaped cookies are used to support the playful activities.

**Role of the Therapist.** The playful progress of the session is determined by the therapist who cares for the child’s needs, not for his or her own wishes. The therapist builds a close relationship with the child encouraging eye contact, using every opportunity to initiate warm, affectionate body contact in a playful manner, intensely directing the child’s attention and preventing or diverting rebellious behavior. The therapist is empathic, receptive to the child’s signals, and is trained to understand the child’s feelings. Further, therapeutic activities are selected consistent with the child’s developmental rather than chronological age.

**Length and Number of Sessions.** At least 30 minutes are required per session. The number of sessions that are necessary to complete treatment with Theraplay varies with the type of problem being treated. Typically, about 18 sessions are needed to achieve the therapeutic goals. All therapeutic sessions are videotaped to assist with planning further sessions and to facilitate discussion of the child’s progress with the parents.

CASE EXAMPLE

To illustrate both the problems common to the shy, timid, socially withdrawn children in this study as well as their response to Theraplay, we will begin by presenting the case of a four-year-old, bilingual boy, Cornelius, admitted to the Phoniatriesches Paedaudilogisches Zentrum (Phoniatric Paedaudiologic Center) in Heidelberg, Germany. He is the younger of two brothers. His family immigrated to Germany from Russia. Russian is spoken at home. However, Cornelius speaks German with his brother and in kindergarten.

Cornelius' mother expressed her concern about his condition to his physician, because, as she states, “He scarcely speaks and he hardly has the courage to talk. He never attempts to repeat anything I say.” He is particularly shy when in the presence of others. Due to his behavior, he is teased at the kindergarten; the other children call him “baby”. His mother assumes that this upsets him, causing him to become even more shy. He lacks self-confidence and has low self-esteem. If Cornelius refuses to speak at home, his mother keeps questioning him, until she understands what he wants to say. The teacher has told her, that Cornelius is smart, and sometimes knows more than other children his age, but that he is not able to express himself in words. However, he is capable of understanding nonverbal exercises and, as a result, can cooperate with other children. His parents did not see the connection between Cornelius’ developmental language delay and his shyness and his mother has not been very concerned about the latter to this point. Cornelius is timid and quiet but the mother has not identified this as a problem.

Case Formulation. Anamnesis of Cornelius’ impairment was obtained. Organic dysfunction of his ears, nose and throat as a cause of his language delays was ruled out by an ENT. Intelligence was tested and psychopathology assessed by a female clinical psychologist. A speech-language pathologist documented Cornelius’ receptive and expressive language development as well as articulation skills. Cornelius was diagnosed with a mixed receptive-expressive language disorder (DSM-IV: 315.31; ICD-10: F80.1 and F80.2) and co-morbid circumscribed interaction disorders such as shyness, lack of self-esteem, unwillingness to cooperate, and concomitant attention deficits.
To assess Cornelius’ social interaction skills each of the parent-child dyads was observed using the Heidelberg Marschak Interaction Method (H-MIM). The analysis of the H-MIM with Cornelius revealed the mother to be very committed to her son. She quietly spoke Russian to him. Cornelius was also devoted to his mother. He liked to laugh, clearly enjoyed playing with her, and had fun carrying out the tasks assigned to them. However, he barely spoke. During a stress task, the mother had to leave the room for three minutes. She explained this to Cornelius, caressed him lovingly and comforted him. He accepted her departure. In her absence, he took a look at several different things around him, looked at himself in a mirror and showed no fear. After some time, his mother knocked on the door. Cornelius opened the door for her. They smiled at each other. Both took a seat and continued to play. Thus, Cornelius responded in the manner of a securely attached child, who has learned that his mother will return.

The interaction between Cornelius and his father during the H-MIM was also unremarkable. They played with one another. His father spoke quietly as well. However, if Cornelius was confronted with a problem that he was incapable of solving, he wanted his mother to solve the problem. Father and son were friendly toward one another, but rather tentative. Sometimes the father did not seem to understand what his son wanted to do but both were accepting. Cornelius imitated his father occasionally except he tended not to imitate his father’s verbalizations.

The diagnostic analysis confirmed a loving and devoted interaction between both mother and son, as well as between father and son. Cornelius is not as shy with his parents as he is with others, especially with the children at the kindergarten. However, he did not speak much. And, when he did, he used one-syllable words. This was consistent with the speech-language examination.

**Intervention.** The physician prescribed Theraplay prior to treatment of the language delay. Cornelius responded well to Theraplay from the outset. He separated easily and trustingly from his mother when led into the therapy room by the therapists. He was friendly to both the therapist and the co-therapist. Unexpectedly, he showed a great willingness to cooperate. After only a few sessions, he expressed openly that he was looking forward to returning for the next session. And, he greeted his mother with radiant joy, when he returned to her at the end of each session.
The mother viewed all of the Theraplay sessions through the one-way mirror, and heard everything by speakers in the room next door. After the seventh session, a consultation was arranged between the therapist and the parents. Both parents were extremely satisfied with the change in Cornelius’ behavior. The mother was excited about the progress Cornelius was making in his social interactions and at home. She observed that he spoke more frequently; even speaking while he was playing at home, though most of the time his language was still hard to understand. The mother reported Cornelius’ brother has become “enchanted” with him. Even the kindergarten teacher reported that Cornelius’ spoke more often. She noted he did not complain as much about the other children in the class treating him unfairly. Evidently, his communication skills and his behavior had improved. The therapists both agreed Cornelius had changed for the better.

The mother wanted Cornelius to continue in Theraplay. She hoped his condition would improve even further. More Theraplay sessions were agreed upon. After 23 sessions all involved agreed the therapy goals had been attained and therapy was terminated.

The final assessment confirmed Cornelius had developed into a true personality. He had confidence in himself, had become more courageous, had lost his shyness, and improved his social interaction skills. He was now sufficiently prepared for treatment of his language disorder by a speech language pathologist.

Follow-Up. Two years after Cornelius was discharged from treatment, a follow-up examination was initiated in the course of the CLS. He was attending first grade with eleven other children in a special school for language-delayed children. He was no longer receiving individual treatment for his language disorder. The teachers were confident that Cornelius would continue to perform well at school. In fact, he was the best in his class. His parents agreed he was a good student. He had the ability to do calculations in his head and his reading and writing skills were good as well.

Diagnostic evaluation by the psychologist revealed Cornelius’ social skills had developed astoundingly well. He was no longer self-conscious about his language difficulties. He was proud of the fact that he knew the answers to all the tests. He was creative and able to make something out of the things around him. His psychopathologic symptoms, so evident at the beginning of therapy, were nearly unnoticeable. (Symptoms and their change were measured
using CASCAP-D, German Version of the Clinical Assessment Scale for Child and Adolescent Psychopathology, Doepfner et al., 1999).

Cornelius’ bilingualism (Russian-German) still caused him a few language and speech problems. He continued to construct sentences in German using Russian grammar, therefore, making significant mistakes. He confused some sounds (e.g. w/n) and his speech was often slurred and rapid. He spoke less Russian every day, nevertheless, he had a sound understanding of the language. According to the speech-language pathologist, Cornelius’ speech was still in need of further treatment. Apart from the delayed language development, Cornelius continued to display dyslalia and disordered syntax. Even though he was the best in his class, Cornelius’ poor speech could impinge on his future educational and vocational development if it was not treated further.

The first thing that came to his mother’s mind when asked about the changes she has observed in her son, was his openness towards others and his ability to make friends. His father described him as being “warmhearted” in his social relationships. He was now talking to the neighbor’s children and was frequently invited over by other children. And, he had become more daring. He would ask children his age, even strangers, “Can I join you?” His parents said that he was able to stay home alone and that he has a good relationship with his older brother. Cornelius had begun to participate in a lot of sports, e.g. soccer, handball, gymnastics and judo all of which he was previously unable to do because of his shyness and timidity.

RESEARCH STUDIES

Purpose

Cornelius is only one of many children suffering from shyness and its long-term effects such as impaired social interaction and language disorders. Because we found Theraplay was helpful in many cases of children having a polyopathy of communication disorders and concomitant behavior disorders we initiated a controlled longitudinal study (CLS) in 1998. The hope was Theraplay would make these very socially impaired children more amenable to language therapy by decreasing their behavior problems and increasing their cooperativeness and ability to pay attention. The CLS has somewhat limited generalization because it was conducted in just on region of Germany, that is the area of Heidelberg. To overcome this limitation we initiated a Multi-Center Study (MCS) in 2000 to evaluate the effectiveness of Theraplay in 9
therapeutic facilities including 1) an institution/home for handicapped children, 2) an institution for early intervention with disordered children, 3) an out-patient clinic for children with communication problems, 4) a special school for children with developmental language disorders, 5) a nursery school in an social service institution, 6) a family psychotherapist’s practice, and the practices of 3 speech-language therapists. These locations were spread across different regions of Germany and Austria and served varied populations. In total 14 trained and certified Theraplay therapists treated the children.

Research Questions

• How distinct are the shyness and concomitant symptoms of the target group compared with the same symptoms in a matched sample of clinically unobtrusive children?

• Does Theraplay reduce the shyness of these infants and toddlers, and to what degree?

• Does Theraplay reduce the severity of the concomitant symptoms, and by how much?

• Is the change in the children’s shyness and concomitant symptoms both clinically relevant and statistically significant?

• How many Theraplay sessions are needed to achieve a therapeutic outcome?

• CLS Only: How satisfied were parents and therapists with the outcome of the Theraplay?

• CLS Only: Is the positive effect of Theraplay still evident two years post-treatment or have there been relapses?

METHOD

Subjects: CLS

The initial subject pool consisted of 68 children referred to the Phoniatric Paed-Audiologic Center in Heidelberg (Germany) for diagnosis and treatment of their developmental language disorders who, because of they also had severe behavior problems, were referred for Theraplay prior to beginning their speech-language therapy. Of that pool 8 did not continue because their parents withdrew them due to dissatisfaction with the length of the pre-treatment waiting period. The 60 remaining children included 43 boys and 17 girls. The average age when they were first seen by a physician was very similar for both boys (M=4 years, 3.9 months, SD=1.2) and girls (M=4 years, 3.8 months, SD=1.5).

Of the remaining 60 children, 22 (15 boys and 7 girls) were diagnosed as having mild, pronounced or severe shyness in addition to a polypathia of communication and behavior.
disorders including severe impairment in social interaction. The existence and severity of the shyness and concomitant symptoms was assessed using the CASCAP-D (German version of the CASCAP - Clinical Assessment Scale for Child and Adolescent Psychopathology, Doepfner et al., 1999). All 22 shy children were available for the 2-year follow up, the results of which are reported here. The average age at first contact was 4 years, 3 months (M=4 years, 3 months; SD=1.1). The shy boys were, on average older (M=4 years, 4 months; SD=1.1) than the shy girls (M=3 years, 4 months; SD=0.8). Twenty of the mothers were married but 3 of them lived apart from their spouses. One mother was divorced, and one was an unmarried single. In 17 cases the child was being raised by both mother and father, the rest by just the mothers. Sixteen children were legitimate, 4 illegitimate, 1 adopted, and for 1 this data is missing. Twenty of the shy children were born in Germany, the other 2 abroad. In 21 cases German was the native language. Two of the children were bilingual. Seventeen children were attending a nursery school. Eighteen of the shy children (11 boys and 7 girls) were referred to the ENT specialist because of their obvious language problems, 6 of them (3 boys, 3 girls) because of suspected language developmental disorders and only 3 because of suspected behavior disorders. In 19 cases the caregivers were relatively worried about their child’s impairment (M=4.6, SD 1.3 on a 6-point rating scale where 1=not worried and 6=highly worried). They were more worried about the impairments of the boys with (M=4.8, SD= 1.1) than that of the girls.

A control group of N=30 clinically unobtrusive children matched in sex and age with a random sample of the experimental group of N=60 clinically conspicuous children was obtained. The control group included 21 boys and 9 girls. The average age of these children at the beginning of a 16-week waiting period was 4 years, 5 months. The boys were, on average, a little bit older (M=4 years, 6 months, SD=1.6) than the girls (M=4 years, 4 months, SD=1.3). The purpose of including a control group was to establish a normative level of shyness in a non-clinical population to serve as the benchmark for assessing the initial severity of the problem in the experimental group and for determining the success of treatment in bringing their symptoms into the ‘normal’ range. The control group was assessed at the beginning and end of a 16 week interval. There were no dropouts in this group.

Subjects: MCS

The initial subject pool consisted of N=251 clinically conspicuous children diagnosed by their physician to suffer from dual diagnoses of behavior and of communication disorders who
were referred by these physicians or the medical staff for Theraplay. Within this pool there were 172 boys and 79 girls. The average age at referral was 4 years, 9 months (M=4 years, 9 months, SD=1.9). Boys were, on average, a little bit younger (M=4 years, 8 months, SD=1.6) than girls (M=4 years, 10 months, SD=1.9).

From that pool 125 infants and toddlers (81 boys and 44 girls) all determined to have clinically relevant shyness, many to the point they were unable to cooperate and interact with the therapist, were included in this study. Many of these children also displayed attention deficits, lack of cooperation, and receptive and delayed expressive language development. As with the CLS group the presence and severity of the children’s shyness and accompanying symptoms was assessed using the CASCAP-D (Doepfner et al., 1999). The average age before treatment began was 4 years; 7 month (M=4;7; SD=1;8). The shy boys tended to be younger (M=4;6; SD=1;6) than the shy girls (M=4;9; SD=2;0). Eight-six of the mothers (about 70%) are married, 11 (about 9%) are living together with the father, but unmarried, 8 are divorced or living apart from the child’s father, and 18 (nearly 15%) are unmarried single mothers. In 95 cases (nearly 79%) the child was being raised by a mother and father, 26 (about 21%) by mothers alone and in 4 cases these data are missing. Ninety-three of the children (about 77%) were legitimate, 22 (about 18%) were illegitimate, 6 were foster or adopted children, and for 4 these data are missing.  One hundred one shy children (about 83%) were born in Germany, 21 abroad, (about 17%) 12 of them in Turkey and in 3 cases these data are missing. In 114 cases (about 92%) German is the native language. There were 17 bilingual children. And 94 children (about 78%) were attending a kindergarten. Sixty-eight children (43 boys and 25 girls) were diagnosed by their physicians as having developmental language delays. Thirty-two (24 boys and 8 girls) children were referred to Theraplay because of speech problems. Only 15 children (12%) were also diagnosed as having behavior disorders. In 96 cases the caregivers were relatively worried about their child’s impairment (M=4.5, SD 1.3 on a practice-founded 6-point rating scale where 1=not worried and 6=highly worried). They tended to be less worried about the boys’ impairments (M=4.4, SD=1.3) than those of the girls (M=4.8, SD=1.1). Only some of the children had previously received special education services (17 children (14%) special nursery school; 10 (8%) special kindergarten, 7 remedial education and only 5 speech-language training) although all 125 shy children had been diagnosed by a speech-language pathologist as having mild, pronounced or severe receptive language problems.
**Instruments: CLS and MCS**

In the CLS there were many different objectives so a wide range of instruments was used, many of them practice-based. Since the MCS was solely designed to replicate the findings of the CLS only a selected subset of the instruments used in the CLS were used. Several of the questionnaires used in the MCS were slightly shortened versions of their CLS counterparts. Table 1 shows a list of all the instruments used and the points at which they were administered. Only results of those instruments that are both bolded and italicized in the table are reported here. A brief description of each of those follows.

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<th>Table 1: Instruments Used &amp; Point of Administration in the CLS &amp; MCS</th>
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1 E=Evaluation, Q=Questionnaire, S=Scale, T=Test
2 Italized instruments were those administered to the control group before and after a 16 week interval. Bolded instruments are those whose results are reported in this study.
Q11 is a questionnaire about the anamniss of the child. Data were obtained during the first contact with the caregiver of a clinically conspicuous child. Items focus on the reason for bringing the child to an ENT, degree to which the parent was concerned about the child’s impairment, the family history, the child’s medical history, the child’s developmental progress to date and any previous interventions.

Q12 is a questionnaire used to gather socio-demographic data on the child and his or her biologic mother and father. In the case of foster or adopted children estimates were obtained from the current caregivers. Data about the child’s sex and age, siblings (number and age of brothers and sisters and birth order), native country and language, bilingualism, and attendance at nursery school or kindergarten was gathered. Data about the marital status of the siblings was obtained. Lastly, information about the parent’s marital status, distribution of responsibility for raising the child (together or alone), as well as their language, education, employment and religion was gathered.

E18 is used for repeated measurement of the child’s psychopathological symptoms. Its base is the CASCAP-D, the German version of CASCAP - Clinical Assessment Scale for Child and Adolescent Psychopathology (Doepfner et al., 1999). This instrument was used for two reasons: One was that it allows one to rate the severity of the relevant psychopathological symptom on a 4-point scale (1=not noticeable, 2=mild, 3=pronounced, and 4=severe symptom). The original set of 96 symptoms to be diagnosed was reduced to those 53 relevant symptoms usually detected in the Heidelberg outpatient clinic. The other reason was that the CASCAP-D
was commonly used as part of the basic documentation for all children in various pediatric psychiatry departments and pediatric clinics in Germany in 1997, when the CLS was planned. The CASCAP-D was developed in the Cologne Study 2 (Doepfner et al., 1994b). The child’s symptoms can be aggregated into internally consistent symptom scales. Correlation between corresponding symptom scales was calculated between $r=.54$ to $r=.96$, with speech disability assessment at $r=.96$. Factorial, convergent and discriminant validity of the German version was analyzed by Doepfner et al. (1999, pp. 89-107). The empirically defined symptom scales are independent from each other. The inter-correlation of symptom scales was statistically significant ($N=597$, $p<.05$).

Q35-0 is a questionnaire in which the number of sessions needed to reach the treatment goals and the frequency of the mothers, fathers or relevant caregivers participation in the sessions.

S35-1 and S35-2 are scales used to evaluate the mother’s, the father’s, and the therapist’s view of the treatment outcome.

Assessment of the mother-child and father-child interactions was done using the H-MIM, a German version of the MIM. The MIM was originally developed in the United States (Marschak, 1960) to evaluate the interaction between two individuals as they perform a series of structured tasks. Here, this technique is used to systematically observe and evaluate child-parent interaction (Ritterfeld & Franke, 1994).

**Treatment Setting: CLS & MCS**

The CLS was carried out in the Phoniatric Paed-Audiologic Center in Heidelberg, Germany. Theraplay sessions were conducted in a room with an observation room alongside it. The therapy room was well lit with a wide, colored, soft mat on the floor all of which was minimally distracting. All materials were stored in closets except those being used in the session. There was a mirror on the wall behind the therapist to allow observers to see the child’s reaction. A microphone was above the mat and two cameras were installed to tape the whole process of therapy for later clinical analysis. Between the rooms was a one-way mirror.

The Theraplay sessions for the children in the MCS took place in each institution’s or therapist’s regular therapy room. Parents or caregiver could observe the sessions via closed circuit TV. In most cases the treatment settings were fairly similar to that of the longitudinal study.
Treatment Procedure: CLS & MCS

In all cases therapists who were post-graduate trained and certified as Theraplay therapists by Ulrike Franke, a Certified Theraplay Trainer, carried out the Theraplay sessions. Both the structure of the individual sessions and the overall course of treatment was very similar across settings. In the CLS a Theraplay therapist and a co-therapist generally treated the children. The co-therapist sat with her back to the wall while holding the child in her lap to give him or her a warm, secure feeling of being accepted, helps the child if necessary, and to safeguard the therapist in case of an aggressive child. The therapist sat or knelt in front of the child leading the therapeutic process. The child’s focus was maintained with close eye contact and touch. The parents or the caregiver observed their child’s sessions usually with a psychologist or co-therapist there to explain the process of the intervention. Sometimes a caregiver became the co-therapist later in the treatment after having received sufficient training.

RESULTS

The presentation of the results is organized to answer the original research questions.

How distinct are the shyness and concomitant symptoms of the target group compared with the same symptoms in a matched sample of clinically unobtrusive children?

On the CASCAP-D (Doepfner et al., 1999) shyness is considered to be symptomatic if the diagnostician observes the child feels very uncomfortable and insecure in new situations, doesn’t answer questions or does so in a very low or faltering voice or breaks off mid-response and avoids eye contact. Shyness is also considered symptomatic if the caregiver reports that the child avoids nearly all peer contact due to his or her uncertainty and inhibitions and is nearly unable to hold out against unwarranted demands, claims and wishes of peers.

Because there are no norms on which to base assessments of shyness severity in children the symptoms of the children in the pre-treatment clinical group were compared to the baseline symptoms of the children in the control group. Even when averaging the mild, pronounced and severely shy children in both the CLS (M=2.5, SD=0.7) and MCS (M=2.9, SD=0.8) groups they still were experiencing more problems than the children in the control group (M=1.2; SD=0.4). Even though there were some children who might be considered shy in the control group it appears their level of symptomatology can be considered to be within the normal range.
Figure 1: Shyness of clinically significant shy infants and toddlers out of two studies is compared with a control group of clinically not symptomatic “normal” children.

The clinical group of children also displays significant affective symptoms and a pattern of behavior that disturbed their social interactions. Table 2 shows how distinct the accompanying symptoms of clinically shy children are compared with a control group of clinically unobtrusive, “normal” children, matched by sex and age.

Table 2. Concomitant Symptoms of the Shy Children as Compared to Controls

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Control Group N=30</th>
<th>CLS N=22</th>
<th>MCS N=125</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of Self-confidence</td>
<td>1.0 ± 0.0</td>
<td>1.1 ± 0.4</td>
<td>2.2 ± 1.2</td>
</tr>
<tr>
<td>Mistrust, Suspiciousness</td>
<td>1.0 ± 1.2</td>
<td>1.3 ± 0.7</td>
<td>1.9 ± 1.1</td>
</tr>
<tr>
<td>Over-adapting to be conform</td>
<td>1.0 ± 0.0</td>
<td>1.7 ± 0.7</td>
<td>1.5 ± 0.9</td>
</tr>
<tr>
<td>Seclusion, Socially Withdrawn</td>
<td>1.0 ± 0.0</td>
<td>1.6 ± 0.8</td>
<td>1.8 ± 1.1</td>
</tr>
</tbody>
</table>

Average of Evaluation on a 4-Point Scale
1 = not noticeable 2 = light 3 = clear 4 = severe symptoms

We will now present the results of these two studies conducted with shy, language disordered children very similar to Cornelius: Both studies 1) the controlled longitudinal study (CLS) in the region of Heidelberg, Germany, and 2) the multi-center study (MCS) in nine different institutions in different regions of Germany and Austria are designed to evaluate the effectiveness of Theraplay on infants and toddlers with polyphathia of communication disorders and behavior disorders, in case of this report shyness.

Distinct shyness and accompanying symptoms of infants and toddlers

Base to evaluate the effectiveness of Theraplay in treating shy infants and toddlers are both the marked degree of shyness and accompanying symptoms of the experimental sample before intervention, and the low level of the same symptoms in the control sample, matched in sex and age.

Shyness is defined by CASCAP-D (Doepfner et al., 1999) to be symptomatic if the diagnostician observes that the child feels very uncomfortable and insecure in a situation like the just happening setting, doesn’t answer or if, than with a very low voice, very faltering, often breaking off, avoiding eye contact. It is symptomatic too, if the caregiver reports that the child avoids nearly all contact with peers due to his or her uncertainty, has big scruple.

... [17]

... [18]
Concomitant Behavioral Symptoms

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Mean*</th>
<th>SD</th>
<th>Mean*</th>
<th>SD</th>
<th>Mean*</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention Deficit</td>
<td>1.2</td>
<td>0.4</td>
<td>2.4</td>
<td>0.8</td>
<td>2.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Poor Cooperation</td>
<td>1.1</td>
<td>0.2</td>
<td>2.1</td>
<td>1.1</td>
<td>2.3</td>
<td>1.2</td>
</tr>
<tr>
<td>Oppositional Defiance</td>
<td>1.1</td>
<td>0.2</td>
<td>1.1</td>
<td>0.4</td>
<td>2.0</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Polyphatia: Developmental Language Delay

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Mean*</th>
<th>SD</th>
<th>Mean*</th>
<th>SD</th>
<th>Mean*</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressive Language Disorder</td>
<td>1.1</td>
<td>0.3</td>
<td>3.1</td>
<td>0.9</td>
<td>2.7</td>
<td>1.2</td>
</tr>
<tr>
<td>Receptive Language Disorder</td>
<td>1.0</td>
<td>0.0</td>
<td>2.8</td>
<td>0.9</td>
<td>2.4</td>
<td>1.2</td>
</tr>
</tbody>
</table>

*CASCAP-D ratings of symptom severity where 1=not noticeable, 2=mild, 3=pronounced, and 4=severe.

In the MCS sample the lack of self-confidence is relatively great (M=2.2; SD=1.2) compared with normal children (M=1.0). But this is not the case in the CLS sample. Lack of self-confidence was determined using caregiver observations and reports of the child’s feelings of worthlessness, poor sense of mastery, clumsiness, and unattractiveness. These children do not feel confident or self-efficacious. Children do not often verbalize that, but they say that they think they may not be able to cope with various tasks and standards. Mistrust is also a symptom observed in some shy children, and is marked in the MCS sample (M=1.9; SD=1.1) but not in the CLS sample in comparison with the normal children (M=1.0). Mistrust here is characterized by the child not trusting others including the therapist, not believing what is said, and continually questioning and checking back. Such children are suspicious, and take things personally. Excessive conformity is found in both of the experimental samples (CLS: M=1.7, SD=0.7; MCS: M=1.5, SD=0.9), when compared with the control group (M=1.0). Excessive conformity means that the child always tries to satisfy everybody anticipating the expectations of others, and disregarding and neglecting his or her own needs, wishes and ideas. To be socially withdrawn is a typical accompanying symptom, and is diagnosed when the child avoids contact with the diagnostician or the caregiver, and if parents report that the child seldom takes part in daily interactions at home, in school or with peers, and that the child often withdraws to his or her own room.

Attention deficit is a clear concomitant symptom in shy children and is often the reason therapy does not work. In both of the clinical samples (CLS & MCS: M=2.4, SD=0.8 and 1.2) the attention deficit scores are higher than those of in relation to the normal children (M=1.2). It is easily observed when the child is always distracted by irrelevant stimuli during diagnosis and always has to be led back to the task. The caregiver usually reports the child continuously breaks...
off his or her activities such as playing or learning. These children are unable to focus their attention for a longer period. Poor cooperation is the most salient problem for a therapist, as treatment needs cooperation of the patient. It is marked in both clinical samples (CLS: M=2.1, SD=1.1; MCS: M=2.3, SD=1.2). Oppositional defiance is usually seen in connection with aggressive children. It is also a symptom of shy children (MCS: M=2.0; SD=1.2) but in a more subdued way. The shy, oppositional defiant child ignores invitations and requests, avoids demands of the parents, and fails to comply with the wishes of his or her parents without saying a word.

Developmental language disorders may not always be a symptom of shyness, or vice versa, but in both of the clinical samples the presence of a receptive language disorder was significant clear (CLS: M=2.8, SD=0.9; MCS: M=2.4, SD=1.2), especially compared with the control sample of unobtrusive children (M=1.0). Receptive language disorder is a general deficit in verbal comprehension given age and developmental norms. Many of the shy children in these studies had difficulty responding to even simple questions or directions. Expressive language disorder is diagnosed when the child uses only a restricted vocabulary, has difficulty building sentences, speaks in a non-adequate grammar and has low mean length utterances (MLU).

**Does Theraplay reduce the shyness of these infants and toddlers, and to what degree?**

In both the CLS and MCS the decrease in the children’s shyness following Theraplay was marked (MCS: from M=2.9, SD=0.8 to M=1.3) (CLS: from M=2.5, SD=0.7 to M=1.1) (See Figure 1). These scores compare well with the baseline shyness score in the control group (M=1.2, SD=0.4) meaning these children’s shyness has become virtually unnoticeable. In the MCS sample of N=125 the range of shyness severity was smaller (SD=0.6) than in the CLS-sample of N=22 (SD=1.3).

**Figure 2: Average Reduction in Children’s Shyness following Theraplay**

![Figure 2](image-url)
The degree of decrease in both the CLS and MCS is very similar in spite of the different ranges and can be easily discerned in the comparable slope of the lines in Figure 1.

**Does Theraplay reduce the severity of the shy children’s concomitant symptoms and, by how much?**

Table 3 shows the decrease in the shy children’s concomitant symptoms and the coincidence of language developmental delay after Theraplay.

<table>
<thead>
<tr>
<th>Concomitant Affective Symptoms</th>
<th>Control Group</th>
<th>CLS</th>
<th>MCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of Self-confidence</td>
<td>Mean SD</td>
<td>Mean SD</td>
<td>Mean SD</td>
</tr>
<tr>
<td></td>
<td>1.0 0.0</td>
<td>1.1→1.0 0.4</td>
<td>2.2→1.2 1.2</td>
</tr>
<tr>
<td>Excessive Conformity</td>
<td>1.0 0.0</td>
<td>1.7→1.1 0.7</td>
<td>1.5→1.1 0.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concomitant Behavioral Symptoms</th>
<th>Basic Mean SD</th>
<th>Mean SD</th>
<th>Mean SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention Deficit</td>
<td>1.2 0.4</td>
<td>2.4→1.9 0.7</td>
<td>2.4→1.7 1.0</td>
</tr>
<tr>
<td>Poor Cooperation</td>
<td>1.1 0.2</td>
<td>2.1→1.4 0.9</td>
<td>2.3→1.3 1.1</td>
</tr>
<tr>
<td>Oppositional Defiance</td>
<td>1.1 0.2</td>
<td>1.1→1.1 0.7</td>
<td>2.0→1.2 1.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Polypathia with Receptive Language Delay</th>
<th>Basic Mean SD</th>
<th>Mean SD</th>
<th>Mean SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receptive Language Disorder</td>
<td>1.0 0.0</td>
<td>2.8→2.2 0.9</td>
<td>2.4→1.6 0.9</td>
</tr>
</tbody>
</table>

1 CASCAP-D ratings of symptom severity where 1=not noticeable, 2=mild, 3=pronounced, and 4=severe
2 Standard Deviation of the change (decrease) of clinically significant shyness after Theraplay

The symptoms of being “mistrusting” and “socially withdrawn” are left out in Table 3, because in both the CLS and MCS the decrease of these two symptoms was not statistically significant. The “expressive language disorder” is also not shown in Table 3, due to difficulties in diagnosing it in those children without sufficient receptive language.

In contrast to the MCS sample the children’s “lack of self-confidence” and “oppositional defiance” were not nearly as marked in the CLS sample. There are no data to explain this
difference. It may be due to the fact all the CLS children were transferred to the specialist due to their severe developmental language disorders and not because of behavior impairment. In the MCS sample which includes handicapped children and those transferred because of their behavior disorders the lack of self-confidence decreases after Theraplay from pronounced (M=2.2, SD=1.2) to a nearly unnoticeable (M=1.2, SD=0.5). That change makes the group comparable to the control group children (M=-1.0, SD=1.1; p>F 0.0001). This result is supported by another one. Oppositional defiance was marked in the MCS sample before treatment with M=2.0, (SD=1.2) but after Theraplay was reduced to M=1.2 (SD=04), near to the level of the control group (M=1.1).

One of the most astonishing effects of treating clinically shy children with Theraplay was the improvement in their receptive language abilities even though this was not the aim of this therapy and no language therapy had taken place. The receptive language disorder was reduced from a pronounced problem to a milder one (CLS: from M=2.8 to M=2.2; MCS: from M=2.4 to M=1.6).

Is the change in the children’s shyness and concomitant symptoms both clinically relevant and statistically significant?

The clinical relevance of the symptom decrease in children having a polypathia of shyness and problems in interpersonal communication is demonstrated by the reported results (see Figure 2 and Table 3). Table 4 presents the statistical significance of the symptom decrease following Theraplay. Most of the changes of symptoms are statistically significant, although the sample size of the CLS is relatively small (N=22).

Table 4. Change in Children’s Shyness and Concomitant Symptoms after Theraplay when Initial Symptoms were Clinically Significant

<table>
<thead>
<tr>
<th></th>
<th>CLS</th>
<th>MCS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Significance of Change</td>
<td>Significance of Change</td>
</tr>
<tr>
<td></td>
<td>Pre→Post Change p&gt;F</td>
<td>Pre→Post Change p&gt;F</td>
</tr>
<tr>
<td>Target of the Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decrease of Shyness</td>
<td>Mean 2.5→1.1 0.0001</td>
<td>Mean 2.9→1.3 0.0001</td>
</tr>
<tr>
<td>Accompanying Affective Symptoms</td>
<td>Pre→Post Change p&gt;F</td>
<td>Pre→Post Change p&gt;F</td>
</tr>
</tbody>
</table>
Decrease of Lack of Self-confidence 1.1. → 1.0 ns 2.2 → 1.2 0.0001
Decrease in Excessive Conformity 1.7 → 1.1 0.0007 1.5 → 1.1 0.0036

<table>
<thead>
<tr>
<th>Accompanying Behavior Symptoms</th>
<th>Pre→Post Mean 1 Change p&gt;F 2</th>
<th>Pre→Post Mean 1 Change p&gt;F 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease of Attention Deficit</td>
<td>2.4→1.9 0.0099</td>
<td>2.4→1.7 0.0001</td>
</tr>
<tr>
<td>Decrease of Poor Cooperation</td>
<td>2.1→1.4 0.0051</td>
<td>2.3→1.3 0.0001</td>
</tr>
<tr>
<td>Decrease of Oppositional Defiance</td>
<td>1.1→1.1 ns.</td>
<td>2.0→1.2 0.0001</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Language Development Delay</th>
<th>Pre→Post Mean 1 Change p&gt;F 2</th>
<th>Pre→Post Mean 1 Change p&gt;F 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease of Receptive Language Disorder</td>
<td>2.8→2.2 0.0013</td>
<td>2.4→1.5 0.0001</td>
</tr>
</tbody>
</table>

*CASCAP-D ratings of symptom severity where 1=not noticeable, 2=mild, 3=pronounced, and 4=severe

**How many Theraplay sessions are needed to achieve a therapeutic outcome?**

To reach the reported reduction in shyness and its concomitant symptoms required an average of 17–18 sessions. The results of both studies differed only slightly; even though the MCS-sample included different cohorts of patients (CLS: M=17 sessions, SD= 4.3, MCS: M=18 sessions, SD=10.5). Each session was 50-minutes long, where 20 minutes was used to plan the session beforehand and document it afterwards and 30 minutes of direct therapy was provided.

**CLS Only: How satisfied were parents and therapists with the outcome of the Theraplay?**

The parents and therapist were asked to evaluate their satisfaction with the effect of the treatment on a 6-point rating scale and, in addition, their confidence in their satisfaction ratings on a similar 6-point rating scale. Some parent’s hopes could not be satisfied through the Theraplay such as those of the parents of the boy having an incurable mental disease, or few mothers and fathers who had very high expectations. In spite of this, most parents, mothers more than fathers, and most therapists were satisfied with the outcome of Theraplay (see Table 5).

**Table 5. Satisfaction with Theraplay Outcome (CLS)**

<table>
<thead>
<tr>
<th>Target Group</th>
<th>Satisfaction Mean</th>
<th>SD</th>
<th>Confidence in Rating Mean</th>
<th>SD ²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mothers (N=22)</td>
<td>5.0</td>
<td>1.3</td>
<td>5.4</td>
<td>0.8</td>
</tr>
<tr>
<td>Fathers (N=20)</td>
<td>4.8</td>
<td>1.1</td>
<td>5.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Therapist (N=22)</td>
<td>5.0</td>
<td>0.7</td>
<td>5.8</td>
<td>0.4</td>
</tr>
</tbody>
</table>
Not surprisingly, therapists were more confident in their evaluation of the treatment’s effectiveness (M=5.8; SD 0.4) than were the mothers and much more confident than the fathers. Most of the fathers never took part in the therapeutic sessions and, therefore, had less data on which to base their impressions of how their children’s behavior in social interactions changed.

**CLS Only: Is the positive effect of Theraplay still evident two years post-treatment or have there been relapses?**

All children were assessed again two years after completing their course of Theraplay. Those children (N=22) who had undergone follow-up assessment by the end of 2003 were are included in this report. In this time period none of the children had relapsed (see Figure 3 and Table 6). Neither the children’s shyness nor their concomitant symptoms had increased at all. These results look very promising in spite of the small sample size.

**Figure 3. Long Term Effects of Theraplay (CLS)**

<table>
<thead>
<tr>
<th>Pre-Theraplay</th>
<th>2 Years Post Theraplay</th>
<th>Insignificance of Change*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shyness</td>
<td>Mean: 1.1 SD: 0.4</td>
<td>Mean: 1.2 SD: 0.5 p&gt;F: 0.8060</td>
</tr>
<tr>
<td>Concomitant Affective Symptoms</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CASCAP-D ratings of symptom severity where 1=not noticeable, 2= mild, 3= pronounced, and 4=severe

**Table 6. Long Term Effects of Theraplay (CLS)**
**DISCUSSION**

While shyness by itself seems not to be a very disturbing problem for either children or their parents the neurobiological and neuropsychological research of the past few years suggests that shyness, especially shyness accompanied by developmental language delays and poor interpersonal communication may result in learning disorders and more severe social impairments. These two studies strongly suggest Theraplay may be an excellent way of addressing the problems experienced by these young children, especially in terms of decreasing their language delays, difficult social interactions, passive uncooperativeness and inability to pay attention. The improvement in the children’s receptive language was an unexpected and may be the result of the children’s increased attention span and openness to verbal input. Perhaps their improved interpersonal interactions decreased their inhibitions facilitating language comprehension.

**Study Limitations**

There are some specific methodical limitations of the studies conducted. 1) All of the shy children were drawn from a pool known to have developmental language delays. It is, therefore, difficult to generalize the results to shy children in general. 2) At the time the studies were initiated the CASCAP-D was widely used in Germany to evaluate a broad range of psychopathological symptoms of infants and toddlers. Since that time more specific instruments that are better validated and standardized have become available. These may prove more useful in terms of internal and external validity, precision (statistical validity), and reliability in repeated measurements. 3) The CLS and MCS samples were not entirely comparable. 4) The validity of the MCS data may be questionable as the clinicians both rated the symptoms and

---

<table>
<thead>
<tr>
<th>Lack of Self-confidence</th>
<th>1.0</th>
<th>0.0</th>
<th>1.0</th>
<th>0.0</th>
<th>1.0000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive Conformity</td>
<td>1.1</td>
<td>0.2</td>
<td>1.1</td>
<td>0.3</td>
<td>1.0000</td>
</tr>
<tr>
<td><strong>Concomitant Behavioral Symptoms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attention Deficit</td>
<td>2.0</td>
<td>0.7</td>
<td>1.4</td>
<td>0.7</td>
<td>0.0907</td>
</tr>
<tr>
<td>Poor Cooperation</td>
<td>1.4</td>
<td>0.6</td>
<td>1.1</td>
<td>0.3</td>
<td>0.1609</td>
</tr>
<tr>
<td>Oppositional Defiance</td>
<td>1.1</td>
<td>0.3</td>
<td>1.0</td>
<td>0.0</td>
<td>0.3169</td>
</tr>
<tr>
<td><strong>Developmental Language Delay</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receptive Language Disorder</td>
<td>2.2</td>
<td>0.9</td>
<td>2.1</td>
<td>0.9</td>
<td>0.7004</td>
</tr>
</tbody>
</table>

*CASCAP-D ratings of symptom severity where 1=not noticeable, 2= mild, 3= pronounced, and 4=severe*
conducted the Theraplay. Some attempt was made to control this by having them use the CASCAP-D along with a rating manual but being in both roles may have influenced their ratings. In future research, diagnosis and intervention should strictly be separated. 5) It is unfortunate that, due to financial constraints, we were unable to assess those CLS children who waited 16 weeks to begin treatment at the beginning of the waiting period using the CASCAP-D. Had we been able to do so this group could have served as a waiting group control against which to compare the children’s clinical gains following Theraplay. 6) We did not have a comparison group of children treated with an intervention other than Theraplay. Such a group would have made it easier to interpret the specific strengths of Theraplay in treating these children.

Potential Implications

The number of children in need of early intervention is increasing dramatically in the industrialized countries of the northern hemisphere, in Germany in the last ten years more than 15% of new born children as the permanent established conference of the German Secretary for Education and the Arts (2003) find out. At the same time the number of live born infants decreased more than 9% as the German Office for Statistics ascertained in 2003. In other words, even though there are fewer children being born more require intervention. This is one reason for the explosion of health care costs. The results of this study give us reason to be optimistic about the effectiveness of Theraplay for children with social interaction problems. It also suggests a relatively short course of Theraplay can be an effective intervention for these multi-problem children.

Future Research

In spite of the limitations the results of these studies are promising and certainly warrant further investigation. In addition to correcting the limitations previously described there are several issues that might be addressed in future research. More research replicating both the controlled longitudinal as well as multi-center studies are needed to confirm the effectiveness of Theraplay. Research should also be planned with groups of children in other age groups and with other kinds of impairments, e.g. pervasive developmental disorders, autism, aggressiveness and so forth. Research on the relative cost-effectiveness of putting multi-problem, language delayed children directly into speech therapy versus pre-treating them with Theraplay would be of great value. Lastly, studies need to be conducted to determine if these results can be replicated in countries other than Germany and Austria and in various non-European cultures.
REFERENCES


The initial subject pool consisted of 68 children referred to the Phoniatic Paedaudiologic Center in Heidelberg (Germany) for diagnosis and treatment of their language developmental disorders.

The random sample of 60 co-morbid disordered children of the CLS is the net of originally 68 disordered children. 8 children had to be dropped, because their parents decided during the waiting-time to cancel the appointment for treating their child with Theraplay. The reason was in all cases the same: the parents felt highly stressed by their severe disordered child. They didn’t like to go on waiting for Theraplay, and decided for another immediately to start therapy.

All of these 60 subjects were. Because of their also diagnosed severe behavior disorders, and the therapeutic problems resulting out of their inability in interpersonal communication a preceding intervention with Theraplay was prescribed.

The sample of N=60 is the experimental group. Out of statistical reasons it was randomly divided into 2 sub-samples of N=30. One sub-sample was used as a waiting time control group with a period of 16 weeks of waiting before beginning the treatment with Theraplay, the other one started was presented to the therapist immediately. The reason to build-up randomly two sub-samples out of the experimental group was two-folded: On the one hand we wanted to check the homogeneity and statistical reliability of both sub-samples, and the validity and reliability of the parent’s answers. The variability of distribution of features of these two sub samples is highly homogenous. Differences are statistically not significant, e.g. sex: $t=1.1720$, df=58, Prob.$\geq$ 0.2460; chi-square of sex in both sub-samples: df=1, value=0.082; Prob.$\geq$ 0.774; the relevant social interaction: $t=0.3693$, df=12, Prob.$\geq$ 0.7184. On the other hand we wanted to find out how parents attitudes to the child and to the parent-child relationship would increase if the stress with the disordered child goes on during the waiting time, or may decrease by the treatment of their child (this is not reported here-in).

Unfortunately, we decides out of practical and costs-intensive reasons not to diagnose the psychopathological symptoms of the children at the beginning of the waiting time. Therefore is no comparison possible between an experimental group treated with Theraplay and a waiting time control group of the same children but not yet being treated.

29 of the random sample of N=60 children, but all 22 of the selected sample of N=22 clinically shy children reported about in this study, are examined again in a follow-up study two years after the individual discharge of the treatment with Theraplay. These 29 are the net
of preliminary 37 of the random sample of 60 children whose individual 2-years period after
the end of therapy has been finished up to 2003. The missing 8 are drop-outs by different
reasons: a boy was diagnosed having Dementia infantilis, an incurable mental illness. In 2
other cases the parents disliked to be questioned again. The other 5 families moved in the
meantime far away, two of them abroad (Spain, USA). Their new addresses are unknown.

is to define an index how far off the disordered children deviate from the “normal”
one, and to set a benchmark to where the symptoms should change by the treatment with
Theraplay. All of them passed a period of 16 weeks in a pre-post design. There were no
drop-outs in this control group of normal children.

The random sample of 60 clinically conspicuous children of the CLS consists of 43
boys and 17 girls in a male-female relationship of 2.5 : 1. The average age when seen first
time by the physician was 4 years, nearly 4 month (M=4;3,9, SD=1;3) very similar in both
sexes: boys (M=4;3,9, SD=1;2) and girls (M=4;3,8, SD=1;5).

The matched control sample of 30 clinically unobtrusive children includes 21 boys and
9 girls in a male-female relationship of 2.3 : 1. The average age of these children at the
beginning of a 16-weeks waiting period was 4 years, 5 month. The boys were in average a
little bit older (M=4;6, SD=1;6) than the girls (M=4;4, SD=1;3).

Back to the selected sample of 22 shy children of the CLS: 15 of the relevant sample
are boys, 7 are girls in a male-female relationship of 2.1 : 1. The average age at first contact
with the 22 children was 4 years; 3 month (M=4;3; SD=1;1). The shy boys were in average
older (M=4;4; SD=1;1) than the shy girls (M=3;4; SD=0;8). 16 of the 22 were legitimatized
marital children. 4 of the remaining are illegitimate, 1 was adopted, and for 1 are these data
missing. 20 of the 22 mothers are married, but 3 of them live apart. One is divorced, and one
is an unmarried single. In 17 of the 22 cases the child is brought up by both mother and
father, the rest is brought up just by the mothers alone. 20 of the 22 shy children were born in
Germany, the other 2 abroad. In 21 of 22 cases German is the mother-language. 2 of the 22
children are bilingual. 17 of the 22 are visiting a nursery school. Anamnesis shows that 18 of
the 22 shy children (11 boys and 7 girls, chi-square between sex and the two experimental
groups is insignificant df=1, value=0.167, prob=0.683) were transferred to the ENT specialist
because of their obvious language problems, 6 of them (3 boys, 3 girls) because of suspected
language developmental disorders. Only 3 of the 22 shy children had been send because of
suspected behavior disorders. In 3 cases the kind of disorder should be clarified. In 19 of the
22 cases of shy children their caregivers were relatively worried about the impairment of their
child (in average M=4.6, SD 1.3 on a 6-point rating scale from 1=not worried up to 6=highly
worried). They were more worried about the impairments of the boys with $M=4.8$, $SD=1.1$ than that of the girls.

Informed Consent: After the prescription of Theraplay by the physician (ENT) the parent or caregiver of a child was informed in great detail about Theraplay, supported by master videos of how the treatment will be done, and how other children with similar symptoms reacted to it. When parents expressed their consent they were also informed about the longitudinal research project to evaluate the effectiveness of Theraplay, and in detail about professional secrecy and government-controlled data security. They were asked to take part in the study without getting any other equivalent than better knowledge about their child. In fact, all 68 parents agreed to take part in the research and assigned a written contract which allowed to cancel it at any time. As explained, the caregivers of 8 subjects of the full random sample of 68 cancelled the appointment prior the treatment of their child. All the others took part in the full process of treating their child with Theraplay. In the follow-up study two years after their child discharged from treatment, another 8 of 37 who finished the two-years period up to 2003 became drop-outs.

Diagnostic Analysis

In this study all of the subjects were drawn from various centers that treat children with communication disorders. As a result an interdisciplinary team made the initial diagnosis of a communication disorder. An ear-nose-and-throat specialist (ENT) assessed for organic factors and a clinical psychologist tested for intelligence as well as other mental or psychopathological disorders. Finally, a speech-language pathologist assessed speech and language development. Many of these children were then referred for Theraplay in order to prepare them for speech-language therapy by reducing emotional or behavioral problems that might interfere with their progress.

Assessment of the mother-child and father-child interactions was done using the H-MIM, a German version of the MIM. The MIM was originally developed in the United States (Marschak, 1960) to evaluate the interaction between two individuals as they perform a series of structured tasks. Here, this technique is used to systematically observe and evaluate child-parent interaction (Ritterfeld & Franke, 1994).
of the Controlled Longitudinal Study (CLS)

Evaluated Communication Disorder by Par

SAS-Scales, evaluated by Diagnosis
SAS-Scales, evaluated by Parents

Father-Child Interaction (H-MIM)
Methods. Points of measurement: A longitudinal study is characterized by repeated measurement. The points of measurement in the CLS were at the beginning of the waiting time (WTB), at the beginning of the treatment with Theraplay (TTrB), at the end of the individual treatment (TTt), and 2 years after the child’s discharge from treatment (2Yat). Also, the individual process of intervention (PTOBS) was observed and video-taped to be clinically analyzed later. These results are not reported here-in.

Setting: The CLS is carried out in only one location, the Phoniatric Paediaudiologic Center in Heidelberg, Germany. For intervention with Theraplay there are two rooms side by side, and a waiting area in front of these two rooms. One of the rooms is for treating the child, presenting very low distraction. All materials for treatment are stored in closets except the ones just to be used. No play things are used. The room is well lighted by a day-light window and several lamps at the ceiling. There is a wide, colored, soft mat on the floor on which the treatment takes place. Generally, a Theraplay therapist and a co-therapist treat the child. The co-therapist sits with her back to the wall having the child in her lap to give him or her a warm, sympathetic feeling to be accepted, and to safeguard the therapist in case of an
aggressive child. The therapist is sitting or kneeling in front of the child leading the therapeutic process. The child is always in her focus with near eye contact and being in touch. There is a mirror on the other wall behind the therapist to see the child’s reaction out of the therapists view, too. A microphone above the mat and two TV-cameras out of different directions are installed to tape the whole process of therapy on video for later clinical analysis, and to send the sound to the observer’s room beside. Between both rooms a one-way mirror is installed. The parents or the caregiver are viewing and hearing from here the treating of their child, if possible accompanied by a psychologist or co-therapist explaining the process of intervention. Sometimes a caregiver after being trained takes over the role of a co-therapist in treatment.

Instruments: As there were different objectives of the longitudinal study a wide scale of instruments was used, many of them practice-founded, as there has been no scientific evaluation of the effectiveness of Theraplay before, as far as we know. Table 1 shows a list of instruments and the points of measurement (X) when they are used.

Only some of these instruments are used to investigate in parallel the control group of 30 clinically unobtrusive children in a pre-post design with a period of 16 weeks in between. These are the instruments Q11 – Q13, E14-1, E18, S21-1, T24, E25-1/2, S31-2, S32, and S33.

To report the results of the effectiveness of treating the shy children with Theraplay only very few out of the wide scale of instruments are relevant. These are Q11 and Q12 for the basic interviews with the parents or caregiver, E18 evaluating the psychopathological findings about the child’s disorders, Q35-0 about the number of sessions needed to reach the aim of the therapy with Theraplay, and S35-1 and S35-2 evaluating the outcome of the treatment out of therapist’s and parent’s point of view. In the following will be given a short description of those few instruments:

Q11 is a questionnaire about the anamnesis of the child. Data are required during the first contact with the caregiver of a clinically conspicuous child. The point of questioning is different. In fact, parents of the waiting time control group and the control group of unobtrusive children were interviewed at the beginning of the waiting time or the beginning of a the 16-week waiting period, respectively. The rest of the experimental group were interviewed before beginning the treatment. Questions are: Why the caregiver is presenting the child to the ENT specialist? If and in what degree they are worried about the child’s impairment? By which symptoms of the child they feel irritated or worried? What they think
what the causality of the disorder could be? If someone in the family or ancestors have had similar symptoms or disorders? About the mothers of the conspicuous children: If there have been pre-, peri- or postnatal problems during pregnancy, and during or after childbirth? About APGAR, weight and length of the child when born? About motor, mental and language development problems of the child in early childhood,? Questions about former illnesses? About the diagnosis given by the child’s usual physician? About former kind of interventions? Most of that is not reported here-in.

Q12 is a questionnaire about socio demographic data of the child and his or her natural mother and father, according to foster or adopted children as far as their foster parents know. Data about the child’s sex and age, marital status, responsibility of the parents for bringing up the child (together or alone), siblings of the child (number and age of brothers and sisters), marital status of the siblings, status of the child in the order of siblings, native country and language of child, and of mother and father, bilingualism of the child, child’s visiting a nursery school, school education and religion of mother and father.

E18 is used for repeated measurement of psychopathological symptoms of the child. Its base is CASCAP-D, the German version of CASCAP - Clinical Assessment Scale for Child and Adolescent Psychopathology (Doepfner et al., 1999). This instrument was preferred out of two reasons: On the one hand it allows a dimensioning of the marked degree of the relevant psychopathological symptom on a 4-point scale between 1=not noticeable, and 2=light..., 3=clear..., or 4=severe symptom, e.g. of shyness. The original set of 96 symptoms to be diagnosed was reduced to those 53 relevant symptoms usually detected in the Heidelberg ambulance. On the other hand CASCAP-D was usually part of the basic documentation of all children routinely diagnosed in various pediatric psychiatry departments and pediatric clinics in Germany (basic documentation) at the time when the CLS was planned in 1997. So the instrument was well-known to the clinical psychologist who diagnosed the children. The CASCAP-D was worked out by the Cologne Study 2 (Doepfner et al., 1994b). The symptoms can be aggregated into internally consistent symptom scales. Correlation between corresponding symptom scales were calculated between r=.54 to r=.96, with speech disability assessment at r=.96. Factorial, convergent and discriminating validity of the German version was analyzed by Doepfner et al. (1999, pp. 89-107). The empirically defined symptom scales are independent form each other. Symptom scales’ inter-correlation was statistically significant (N=597, Prob.< 0.05.

Q35-0 is a questionnaire to count the number of sessions needed to reach the aim of the therapy, and to count how often the mother and father, or the relevant caregiver took part
in the sessions. S35-1 and S35-2 are scales to evaluate the outcome of treating the child with Theraplay out of the mother’s, the father’s, and the therapist’s point of view.

All data of the other instruments of the CLS are not analyzed in this report, and are therefore not described here-in.

**Methods of the Multi-Center Study (MCS)**

Research Design: The MCS is a field research in pre-post design carried out in the real session of intervention. It was designed to measure the effectiveness of Theraplay on disordered infants and toddlers, treated with Theraplay by different therapists in different locations. Aim of the MCS is to check the reliability of the results of the CLS, and to gather data for a later generalizing of the findings. It is based on data of the basic documentation of several therapists at the beginning and the end of treating an infant or toddler with Theraplay. In total 14 different trained and certified Theraplay therapists in 9 institutions of different kind gathered the analyzed data in different regions of Germany and Austria. The locations are an institution/home for handicapped children, an institution for early intervention of disordered children, an ambulance for ear-nose-throat problems of children, a special school for language developmentally disordered children, a nursing school in an social service institution, a family psychotherapist’s practice, and 3 practices of speech-language therapists.

Setting: The treating of the indexed infants and toddlers took place in the relevant therapist’s usual room for therapies. Parents or caregiver could observe the treating of their child by a closed-circuit TV-installation and follow the process by microphone and speakers in a room next door. Setting in most cases was created similar to that of the longitudinal study as all participating therapists were post-graduate trained and certified as Theraplay therapists by Ulrike Franke, certified German Theraplay trainer.

Subjects: To become part of the MCS-sample, the child had to be diagnosed by his or her physician to suffer polyphathia of behavior and of communication disorders, and to be transferred with a prescription of the physician to treat the child with Theraplay. Inside an institution the child had to be transferred by the medical colleague to the certified Theraplay therapist. The relevant sample includes 125 infants and toddlers. All of them are evaluated to have clinically relevant shyness, many of them unable to cooperate and interact with the therapist. Concomitant with their shyness many of them suffered attention deficit, lack of cooperation, and receptive and expressive language development delay. This 125 shy children are selected by their symptom of light, clear or severe shyness out of the random sample of N=251 children with behavior and communication disorders, whose treatment with Theraplay was completed in the years 2000-2003. The symptoms of clinically relevant
shyness are diagnosed by CASCAP-D (Doepfner et al., 1999, description see methods of CLS).

Out of the random sample of the MCS consisting of N=251 clinically conspicuous children N=172 are boys and N=79 are girls in a male-female relationship of 2.2 : 1. The average age when transferred by the physician to the Theraplay therapist was 4 years, 9 month (M=4;9, SD=1;9). Boys were in average a little bit younger (M=4;8, SD=1;6) than girls (M=4;10, SD=1;9).

The selected sample of 125 shy children includes 81 boys and 44 girls in a male-female relationship of 1.8 : 1. The average age before treatment was 4 years; 7 month (M=4;7; SD=1;8). The shy boys tend to be in average younger (M=4;6; SD=1;6) than the shy girls (M=4;9; SD=2;0). 93 of the 125 (about 77%) were legitimated marital children. 22 (about 18%) of the remaining are illegitimate, but natural, 6 are fostered or adopted, and for 4 are these data missing. 86 of the 125 mothers (about 70%) are married. 11 of the 125 (about 9%) are living together with the father, but unmarried. 8 are divorced or living apart from the child’s father, and 18 (nearly 15%) are unmarried single mothers. In 95 of the 125 cases (nearly 79%) the child is brought up by both mother and father, 26 (about 21 %) are brought up by mothers alone. In 4 cases these data are missing. 101 of the 125 shy children (about 83%) were born in Germany, 21 (about 17%) abroad, 12 of them in Turkey. In 3 cases these data are missing. In 114 of 125 cases (about 92%) is German the mother-language, in 10 cases a foreign one, 1 data is missing. 17 of the 125 shy children are bilingual. 94 of the 125 (about 78%) are visiting a kindergarten.

Anamnesis shows that 68 of the 125 shy children (56%) by their physicians are diagnosed to have language developmental delay, of these are 43 boys and 25 girls. 32 of 125 shy children were transferred to the therapist because of speech problems, 24 boys and 8 girls. Only 15 of the 125 shy children (about 12%) were also diagnosed to have behavior disorders. In 96 of the 125 cases their caregivers were relatively worried about the impairment of their child (in average M=4.5, SD 1.3 on a practice-founded 6-point rating scale ranging from 1=not worried up to 6=highly worried). In tendency, they were less worried about the impairments of the boys with M=4.4, SD=1.3 than that of the girls (M=4.8; SD=1.1). Only 17 of the 125 shy children (about 14%) visited in earlier time a special nursing school, another 10 (about 8%) a kindergarten, 7 had remedial education and only 5 speech-language training before being treated with Theraplay, although all 125 shy children were diagnosed by a speech-language pathologist to have light, clear or severe receptive language problems.
Instruments: As the MCS was initiated as an independent study to compare the evaluated effectiveness of Theraplay with the results of the CLS the used instruments have to be identical with the relevant instruments of the CLS. There are only 3 questionnaires (Q1 – Q3) used in the MCS.

The questionnaire Q1, part 1 of the MCS referring anamnesis is corresponding with the questionnaire Q11 of the CLS, leaving out all questions about pregnancy, birth and illnesses of the child and similar illnesses in the family or of ancestors. Part 2 of Q1 of the MCS gathers socio demographic data of the child is corresponding with Q12 of CLS, leaving out questions about socio demographic data of mother and father. Questionnaire Q2 in MCS is absolutely the same as E18 in CLS, used together with a special manual, and executed pre and post the treating of the child with Theraplay. Questionnaire Q3 in MCS is corresponding with the contents of Q35-0 in CLS, counting the number of sessions and observing the engagement of the parents during the treating of their child.  (For detailed description see methods of the CLS above).

Statistical Analysis

The SAS – Statistical Analysis System was used for analyzing the data. Facts were counted and tabled in frequency, percent, row percent and column percent. To check the homogeneity between two or more sub-groups t-test and/or chi-square test was done. For multiple statistical analysis of the General Linear Model the SAS procedure PROC GLM with REPEATED statement was used. Multivariate analysis of variance (MANOVA) was analyzed by the method of least squares to fit in the GLM which is usable for different statistical analysis, and manages the variables of classification having discrete level, or the continuous variables measuring quantity. The REPEATED statement allows univariate and multivariate testing hypothesis and contrast as well. REPEATED and CONTRAST transformation are used by the program usually when no KEYWORD is specified. The term LEVEL VALUES analyses values in correspondence with the factor of repeated measures in longitudinal field research designs. Statistical Significance of Change in the CASCAP-D-evaluated symptoms of the originally shy children was analyzed by SAS General Linear Models Procedure, Repeated Measures Analysis of Variance, Univariate Tests of Hypotheses for Within Subjects Effects. Source is time (TT_B→TT_E and TT_E→2YA_T) in the CLS, Pre→Post in MCS and control group).

We will now present the results of these two studies conducted with shy, language disordered children very similar to Cornelius: Both studies 1) the controlled longitudinal
study (CLS) in the region of Heidelberg, Germany, and 2) the multi-center study (MCS) in nine different institutions in different regions of Germany and Austria are designed to evaluate the effectiveness of Theraplay on infants and toddlers with polypathia of communication disorders and behavior disorders, in case of this report shyness.

**Distinct shyness and accompanying symptoms of infants and toddlers**

Base to evaluate the effectiveness of Theraplay in treating shy infants and toddlers are both the marked degree of shyness and accompanying symptoms of the experimental sample before intervention, and the low level of the same symptoms in the control sample, matched in sex and age.

Shyness is defined by CASCAP-D (Doepfner et al., 1999) to be symptomatic if the diagnostician observes that the child feels very uncomfortable and insecure in a situation like the just happening setting, doesn’t answer or if, than with a very low voice, very faltering, often breaking off, avoiding eye contact. It is symptomatic too, if the caregiver reports that the child avoids nearly all contact with peers due to his or her uncertainty, has big scruple and inhibitions, and is nearly unable to maintain him- or herself against unwarranted demands, claims and wishes of peers.

*Insert Figure 1 about here.*

**Figure 1** shows how distinct the shyness (the average between light, clear, and severe shyness) of both the experimental groups of CLS and MCS really is compared with that of control group of clinical unobtrusive children, matched in sex and age (black bar). Even there are some shy children in the control group, too, the average of their shyness may be kind of a baseline of “normal” children (M=1.2; SD=0.4). The experimental sample of the CLS (N=22) shows before treatment a mean of shyness of M=2.5 (SD=0.7); and the one of the MCS (N=125) an even higher average mean of M=2.9 (SD=0.8).
Figure 1: Shyness of clinically significant shy infants and toddlers out of two studies is compared with a control group of clinically unobtrusive “normal” children, matched in sex and age. Compared samples are N=125 clinically shy children out of the MCS, N=22 such children out of the CLS, and N=30 children of a control group of clinically unobtrusive children matched in sex and age with the sample of the CLS. Presented is the average between light, clear, and severe shyness. Shyness was diagnosed before treatment by a 4-point scale of CASCAP-D, the German version of the Clinical Assessment Scale for Child and Adolescent Psychopathology (Doepfner et al., 1999).