

More Than Words®

The Hanen Program® for Parents of Autistic Children or Children Who May Benefit from Social Communication Support

Program Summary

More Than Words – The Hanen Program® for Parents of Autistic Children or Children Who May Benefit from Social Communication Support is a family-focused, social-pragmatic intervention program. The goal of *More Than Words* is to empower parents to become the primary facilitator of their child's social communication development, thereby maximizing the child's opportunities to develop social communication skills in everyday situations.

Program Features

The *More Than Words* Program has the following features:

- It is led by a Hanen Certified speech-language pathologist (SLP) who has received specialized training at a Hanen *More Than Words* Certification workshop
- It is offered to groups of parents (up to eight families per program)
- It has three major components:
 - ◆ an orientation session, followed by a pre-program assessment and baseline video recording of parent-child interaction
 - ◆ eight sessions of group training for parents; and
 - ◆ three individual video feedback sessions for each parent attending the program (parent-child interaction is video recorded by and reviewed with the SLP)
- It is supported by user-friendly resources for both parents and SLPs, including: parent guidebook, detailed Leader's Guide and power point slides

with video examples for use by the SLP group leader

Program Objectives

More Than Words has three objectives:

- i) Parent education
- ii) Early social communication intervention; and
- iii) Social support for parents

Parent education – parents learn about their child's unique learning style and sensory preferences so they understand the child's strengths and areas of difficulty. They also learn basic concepts about social communication and language – e.g., the power of following their child's lead, how to encourage communication by including their child's interest, and using a child's unique sensory preferences to promote joyful back and forth interactions in play. Parents become familiar with the child's stage of communication, enabling them to set realistic social communication goals collaboratively with the SLP and be more responsive to the child's communicative attempts.

Early social communication – parents learn to apply responsive interaction strategies to everyday interactions with their child. Strategies highlighted by the SLP for each parent are tied to the child's social communication goals, which are modified over the course of the program as the child's skills increase. Effective intervention depends upon the parent learning to apply the strategies flexibly across contexts so intervention becomes a natural part of parent-child interactions. Video feedback sessions play a major role in helping parents modify their interactive behaviour and apply strategies consistently, thereby maximizing the child's opportunities to expand their com-



1075 Bay Street, Suite 515
Toronto, Ontario M5S 2B1
Canada

Tel: 416-921-1073
Fax: 416-921-1225
info@hanen.org
www.hanen.org

munication skills while engaging in joyful back and forth interactions.

Video feedback sessions include the following components:

- The parent interacts with their child during an everyday activity, while applying newly learned strategies. The SLP videorecords the interaction;
- The SLP coaches the parent as needed, to help them apply strategies successfully; and
- Parent and SLP view the videorecorded interaction together — the SLP encourages the parent to reflect on the interaction and guides the discussion in order to increase the parent’s awareness of their interactive behaviour and its impact on the child, as well as increasing awareness of the child’s communication. The SLP provides feedback to the parent and helps them identify metacognitive techniques that facilitate consistent strategy use.

Social support for parents – In *More Than Words*, parents gain both formal and informal social support. The SLP, whose multi-faceted role includes that of group leader, interventionist and coach provides more formal support. The parent group itself provides informal support through the sharing of experiences with other parents within the group.

Theoretical Basis

Philosophical Foundation

More Than Words reflects a family-centered model of intervention, recognizing the child as part of a dynamic social system and the family as the most important element in a child’s life. This philosophical orientation recognizes the interrelatedness of the family system in that any action or event affecting one member of the family unit affects them all (Brown, Thurman, & Pearl, 1993; Donahue-Kilburg, 1992). The

family is considered to be the client in a *More Than Words* Program since it is widely recognized that successful treatment depends on family involvement and intensive intervention (National Research Council, 2001). Empowering parents to participate in their child’s early intervention involves supporting and strengthening their capacity to access knowledge and gain practical skills, which in turn, bolsters their sense of self-efficacy in relation to fostering their child’s development (Dempsey & Dunst, 2004).

Theoretical Foundation

More Than Words is based on a social-pragmatic theory of language acquisition, which views the development of communication as occurring in the context of interaction between the child and their social environment (i.e., the important adults in their life). This theoretical approach is also known as social-interactionist intervention (Girolametto, Sussman & Weitzman, 2007). Within social-pragmatic theory, adult-child interactions may encourage or inhibit the child’s communication development, depending on many factors, including the child’s ability to provide clear behavioural cues and the responsiveness of the parent to the child’s cues (Barnard, 1997; Bohannon & Bonvillian, 1997; Bruner, 1974; Stock, 2002).

Strategies taught in the *More Than Words* program focus on enhancing the child’s social communication skills through everyday, naturally-occurring interactions with their caregivers. Within this social-pragmatic intervention program, parents and other caregivers are viewed as the primary facilitators of the child’s social communication and language development. They facilitate the child’s social communication and language skills by applying responsive interaction strategies within a structured environment (Prizant & Wetherby, 1998).

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Video feedback sessions play a major role in helping parents modify their interactive behaviour and apply strategies consistently, thereby maximizing the child’s opportunities to develop more effective communication skills.

The *More Than Words* program enables parents to make intervention a continual and evolving process (Rosetti, 2001). The program accomplishes this by encouraging parents to take advantage of naturally occurring opportunities for communication with their child, and to use the practical strategies they learn in the program during their everyday activities. Parents learn to become more responsive to their child's communication attempts, and to provide prompt, positive and sensitive contingent input (Stock, 2002). Parents learn to connect with their child in a way that creates the intrinsic motivation for the child to learn and communicate.

The following responsive strategies are taught in the *More Than Words* program:

- **Follow the Child's lead**
 - ◆ Face to Face
 - ◆ Observe, Wait and Listen™
- **The 4 I's of Interaction**
 - ◆ Include the child's interest
 - ◆ Interpret
 - ◆ Imitate
 - ◆ Intrude playfully
- **R.O.C.K.™**
 - ◆ R.O.C.K. in People Play
 - ◆ R.O.C.K. in Daily Routines

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Parents are encouraged to take advantage of the many opportunities for communication that naturally take place during the child's day. In this way, More Than Words enables them to make intervention a continual and evolving process.

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Empirical Evidence of Efficacy of More Than Words® – The Hanen Program® for Parents of Young Autistic Children or Children Who May Benefit from Social Communication Support

To date, there are eight published studies examining the efficacy of *More Than Words*.

Study #1 *Telepractice delivery of an Autism communication intervention program to parent groups (Garnett, Davidson & Eadie, 2022a)*

Study #2 *Parent perceptions of a group telepractice communication intervention for autism (Garnett, Davidson & Eadie, 2022b)*

The following two studies were conducted on three *More Than Words* Programs involving the same participants.

<p>Area of investigation</p>	<p>Study # 1: This study investigated the impact of a telepractice delivery of the <i>More Than Words</i> Program on parent and child communicative behaviours. The goals of the study were to test whether:</p> <ul style="list-style-type: none"> ■ Parents’ use of directive and asynchronous (does not relate to the child’s previous message) communication decreased ■ Parents’ responsive communication increased ■ Children’s initiating and responding behaviours increased ■ Changes in parent or child communication behaviours were maintained post-intervention <p>Study # 2: A subsequent study investigated parent perceptions after participating in a <i>More Than Words</i> Program via telepractice.</p>
<p>Research design and Subjects</p>	<p>Study # 1</p> <p>A single case experimental design across multiple baselines was used to evaluate parent and child outcomes.</p> <p>Parent-child dyads were randomly assigned to one of three online <i>More Than Words</i> programs. Data were gathered during four study phases including pre-baseline, baseline, intervention and one, two and three months post-intervention. Baselines for each of the <i>More Than Words</i> groups were staggered, occurring at either three, six or nine weeks prior to the onset of each group’s corresponding program.</p> <p>Eleven children with ASD (2.7-4.7 years) and their mothers participated in the study. Parents were permitted to access other services throughout the research period and reported on any other interventions and services they received during this time.</p> <p>Study # 2</p> <p>A convergent mixed methods design was used to evaluate parents’ perceptions of the intervention. The Parenting Stress Index (PSI) and an online parent survey were administered one-month post-intervention. In addition, six <i>More Than Words</i> evaluation forms were completed by parents throughout the intervention period.</p>
<p>Intervention</p>	<p>Parents attended an online <i>More Than Words</i> Program. At the time the research commenced, the telepractice version of the <i>More Than Words</i> Program had not yet been developed. As a consequence, the researchers obtained permission from The Hanen Centre to deliver the in-person version of the program via Zoom. The <i>More Than Words</i> Program included a pre-program consultation, 8 parent sessions and 3 individual video feedback sessions.</p>

Results

Measures: Throughout the study, each parent submitted several self-recorded videos of interactions with their child. These videos were coded by the primary researcher and a trained speech-language pathologist for the following:

■ Parent communication acts

- ◆ **Directive communication:** Parent-initiated communication directed at the child for the purpose of directing or controlling behaviour (e.g. “Put it on the track”)
- ◆ **Asynchronous communication:** Parent communication that does not relate to the topic of the child’s previous communication
- ◆ **Responsive communication acts:**
 - **Imitate** the child’s actions, gestures, sounds, verbalizations and/or words
 - **Interpret** the child’s message
 - **Expand** by adding semantic or grammatical information to the child’s message
 - **Comment** on the child’s focus of interest or communicative initiation
 - **Responsive questions** that relate to what the child just did or said
 - **Confirming act** to reinforce the child’s actions or responses (e.g. “well done”)

■ Child acts

- ◆ **Respond** to parents’ initiations
- ◆ **Initiate behavioural request** to ask for desired objects or actions without words
- ◆ **Initiate joint attention**, drawing another’s attention to self or an object without words
- ◆ **Initiate functional verbal**, intentional requests or comments using words or word approximations

Parent Communication Behaviours

Analysis of the data revealed a significant and immediate decrease in parents’ directive and asynchronous communication. These changes were maintained following the intervention, with two of the parent groups continuing to decrease these communicative behaviours during the post-intervention phase.

In addition, parents increased their responsiveness, with significant increases in imitating, commenting, responsive questioning and confirming noted. These changes were maintained between the intervention and post-intervention phases.

Child Communication Behaviour

Children increased initiating behaviours once the intervention began. Large treatment effects were observed on child initiating behaviour (i.e. initiating behavioural requests, joint attention, and functional verbal initiations) from baseline to intervention. One group demonstrated large intervention effects between intervention and post-intervention and two groups demonstrated medium intervention effects from intervention to post-intervention.

Children also demonstrated increased responding behaviours once the intervention began, with moderate increases from baseline to intervention.

Child vocabulary was measured by parent report on the MacArthur-Bates Communicative Development Inventory (CDI) at the pre-baseline and post-intervention stages. Children’s vocabulary increased, with children noted to produce more words one-month post-intervention. This trend towards increased vocabulary was not significant, however.

Parent Perceptions

Analysis revealed that parents found many aspects of the online *More Than Words* Program to be beneficial, including the program videos, practice activities, and the social support of the parent-to-parent interactions. They rated the individual video recording, coaching and review highest. Parents increased awareness of their own interactive behaviours and reported confidence in their use of strategies to support their child’s play and communication goals. All parents felt that their child’s social communication skills improved after attending the program. In addition, all parents were satisfied with the online delivery of the program, which allowed for participation and provided them with group support.

Although the Parenting Stress Index (PSI) scores did not improve from pre-intervention to post-intervention, parents reported feeling less stressed following the intervention. The authors suggest that the lack of change in PSI scores is to be expected given the short-term intervention and that the increased confidence and insight parents gained during the intervention may have led to a perceived reduction in stress.

Summary

These studies add to the literature on the efficacy of the *More Than Words* Program and provide evidence for the online delivery of the program. Following participation in an online *More Than Words* Program:

- Parents demonstrated improved responsiveness and reduced directive and asynchronous communication
- Parents were satisfied with the online delivery of the program, gaining insight into themselves and their children
- Children demonstrated improved social communication especially related to an increase in initiating behaviours

The limitations of these studies include the small sample size, lack of program fidelity measures, and the fact that non-standardized tools were used in outcome measurement. The primary researcher delivered the *More Than Words* Programs and, therefore, was not blinded to the treatment. As these studies did not involve a randomized controlled trial, a causal relationship between the parent and child communication behaviour changes and the intervention cannot be definitively ascertained. However, the authors point out that several research design strengths (e.g. random allocation of participants to treatment groups, varying baseline lengths with repeated baseline probes, replication across groups and participants, and collection of data related to children's other services) contribute to confidence in the relationship between the intervention and the observed behaviour change (Garnett et al., 2022a).

Study #3 *Investigation of the effect of Hanen’s “More Than Words” on parental self-efficacy, emotional states, perceived social support, and on communication skills of children with ASD (Erbas, Ozcebe & Esen, 2020)*

Area of investigation	The aim of this study was to investigate the impact of the <i>More Than Words</i> Program on parental self-efficacy, anxiety, depression, perceived social support and interactive behaviours. The study also examined changes in the interactive behaviours and language development of the children whose parent/s attended the program.
Research design and Subjects	<p>A single case experimental design was used to determine rate of change with respect to the outlined parent and child factors. Formal and informal parent and child assessments were conducted at five different time intervals. Statistical analyses were used to determine the rate of change within the pre-intervention time frame as compared to the post-intervention and follow up periods.</p> <p>Subjects: 14 children (ages 2-4) with a diagnosis of ASD and their parents, who had not had a parent education program prior to the study.</p> <p>The 14 children and their families were randomly assigned to one of the two <i>More Than Words</i> Programs offered as a part of the study.</p>
Intervention	A <i>More Than Words</i> Program, including a pre-program consultation, 8 parent sessions and 3 individual video feedback sessions, was provided in Turkish to 14 families of children with ASD.

Results

Measures: The following standardized assessment tools were used to measure parents' emotional states:

- The Self-Efficacy for Parenting Tasks Index – Toddler Scale (Turkish version)
- The Multidimensional Scale of Perceived Social Support (Turkish version)
- The Parenting Stress Index – Short Form (Turkish version)
- The State-Trait Anxiety Inventory
- The Beck Depression Inventory

Statistical analyses revealed that there was a significant decrease in parents’ state of anxiety during and following the *More Than Words* Program. Likewise, parents’ stress levels decreased significantly from pre- to post-intervention. Analyses also revealed a statistically significant change in the parents’ perceived self-efficacy from pre-intervention to post-intervention.

No significant change was noted in terms of parents’ perceived levels of social support, trait anxiety and depression between the pre-intervention and post-intervention time frames. The authors point out that the levels of depression were relatively low for parents from the start of the study. The authors also suggested that the lack of change noted in parents’ perceived levels of social support may be more of a reflection of the assessment tool, which looks at social support in a more generalized way, as opposed to the specific context in *More Than Words*, which involved receipt of support from other parents who were experiencing similar challenges.

In addition to parent self-report measures, parent interaction was measured using the Maternal Behavior Rating Scale. Ten- to fifteen-minute segments of parent-child interaction were filmed and coded by two speech-language pathologists using this rating scale. Statistical analyses of the scores revealed that there was a significant difference in parents’ sensitivity, responsiveness, effectiveness, inventiveness, acceptance, enjoyment, praise, warmth and directiveness from the pre-intervention to the post-intervention period.

Children's results

At the same five designated time points, the following measures were used to assess child change:

- The Test of Early Language Development (Turkish version)
- The Language Development Survey - a measure of children's vocabulary acquisition

Overall, the children's receptive language scores increased significantly in the post-intervention period, along with their overall language scores. Examined on their own, no significant difference was detected in the rate of increase of expressive language scores from the pre-to post-intervention periods.

The children demonstrated significant change in their vocabulary acquisition from the pre- to post-intervention periods. A statistically significant difference in children's vocabulary size was also noted at follow-up, indicating generalization in this area.

Child interaction was also measured using the Child Behavior Rating Scale (Turkish version). Two speech-language pathologists coded ten- to fifteen-minute segments of parent-child interaction using this rating scale. Statistical analyses of the scores at each time point revealed that there was a significant change in the children's overall attention to activity, involvement, initiations of activities and initiations with the adult from the pre-intervention to post-intervention period.

Summary

This study revealed positive changes in parents' perceptions of their competence and emotional states following a *More Than Words* Program, in addition to an increased rate of change in the children's vocabulary, receptive language development and interactive behaviours. Prior to enrolling in the study, the children were receiving special education programming, with a focus on individual, clinician-directed services. As an increased rate of child change was noted following the *More Than Words* Program, the authors suggest that the parent-implemented intervention may have been a factor driving this progression. These findings validate the important role of parents in their child's intervention and the fact that supporting parents' interactions with their child, in turn, supports their child's development.

This study contributes to the existing literature on the *More Than Words* program as the first study to examine the impact of the *More Than Words* Program on parental self-efficacy and social support. Limitations of this study relate to the experimental design in that the study did not include randomization or a control group.

Study #4 *Using the More Than Words Program with Chinese families: A case-control study (Lok, Qi & To, 2021)*

<p>Area of investigation</p>	<p>This study investigated the effectiveness of the <i>More Than Words</i> Program on children with ASD and their parents in Hong Kong. Specifically, the study examined whether:</p> <ol style="list-style-type: none"> 1. Participation in the <i>More Than Words</i> Program had an impact on children’s social communication skills 2. Parenting self-efficacy and socio-economic status contributed to the effectiveness of the program
<p>Research design and Subjects</p>	<p>A prospective cohort study design was used to evaluate outcomes following participation in the <i>More Than Words</i> program.</p> <p>Subjects: 31 Cantonese-speaking children with a diagnosis of ASD and their parents. The children ranged in age from 2-7 years.</p> <p>Intervention group: 26 of the families completed one of seven <i>More Than Words</i> Programs provided within a local rehabilitation organization.</p> <p>Control group: 5 parent-child dyads served as controls. These children remained in special childcare centres and received ongoing speech therapy.</p>
<p>Intervention</p>	<p>A <i>More Than Words</i> Program that included a pre-program consultation, 8 parent training sessions and 3 individual video feedback sessions, was provided in Chinese to the 26 families in the intervention group.</p>

Results

Child Outcomes

Potential gains in the children’s communication skills were evaluated following participation in a *More Than Words* Program and results were compared with those of the control group. All of the children’s social, communication and symbolic abilities were measured prior to the start of the program and one month following completion of the program using the Communication and Symbolic Behavior Scales (CSBS). Following the intervention, children in the *More Than Words* group demonstrated significant growth in their social communication skills when compared to children in the control group. This finding differs from those in the Carter et al. (2011) study, which found significant gains in communication applied only to the children who demonstrated minimal interest in toys prior to their parents’ attendance at the *More Than Words* Program. The authors speculated that this may be due to their use of the

CSBS to measure outcomes. The CSBS measures social-affective signaling and symbolic behaviour – capacities which are directly related to goals of the *More Than Words* Program.

Parent variables

Prior to the program, parents provided demographic information, completed the Chinese version of the Parenting Sense of Competence (C-PSOC) and the Chinese Parental Stress Scale (PSS-C). A hierarchical linear regression was conducted to determine the impact of parenting stress and parenting self-efficacy on child outcomes following the *More Than Words* Program.

Parents with lower perceived self-efficacy made greater gains than those with higher self-efficacy. This finding was in contrast to other studies that found that lower perceived self-efficacy can negatively impact treatment outcomes (Shumow and Lomax, 2002). The authors suggested that the social support parents received as a part of the *More Than Words* Program could have been a factor that helped the parents with lower self-efficacy persevere in more challenging circumstances (i.e. circumstances where parents with higher self-efficacy would continue to persevere). Socio-economic status and parenting stress did not predict child social communication changes.

Summary

This study demonstrated the effectiveness of the *More Than Words* Program for parents of children in Hong Kong, indicating that this may be a viable intervention for Cantonese-speaking families. The authors note that there is an SLP shortage in Hong Kong, making *More Than Words* a good option for providing an effective intervention to groups of families.

The study also added to the research in identifying parental predictors of success in the *More Than Words* program and identified that the children of parents with lower self-efficacy had made greater gains in the Parenting Sense of Competence Scale.

Limitations to this study include the fact that group allocation was not randomized. Although the coders and raters were blinded, the assessor was not blinded to the type of intervention children received. Finally, as the research design did not include a maintenance phase, only short-term outcomes could be measured.

Study #5 *The Impact of Hanen More Than Words Programme on Parents of Children with ASD in Malaysia (Sokmum, Singh & Vandort, 2017)*

<p>Area of investigation</p>	<p>The study investigated whether:</p> <ol style="list-style-type: none"> 1. Malaysian parents who attend a <i>More Than Words</i> Program: <ul style="list-style-type: none"> ■ Can successfully implement the program strategies ■ Are satisfied with the program 2. Malaysian children receiving a <i>More Than Words</i> Program improve their language and social skills
<p>Research design and Subjects</p>	<p>A quasi-experimental design was used to compare the parent and child outcomes of families who completed a <i>More Than Words</i> Program with a control group receiving traditional speech and language therapy.</p> <p>Subjects: 31 children with a diagnosis of ASD who have been receiving traditional speech and language therapy at least three times a month prior to enrolling in the study.</p> <p>Intervention group: 16 children and their families were assigned to one of the two <i>More Than Words</i> Programs offered as a part of the study.</p> <p>Control group: The remaining 15 children continued with the traditional, one-to-one speech and language therapy that they were already receiving.</p> <p>Data for both the intervention group and the control group were gathered during the three study phases including:</p> <ul style="list-style-type: none"> ■ Baseline – prior to the start of the intervention ■ Intervention – following the intervention ■ Generalization – 5 months post-intervention
<p>Intervention</p>	<p>A <i>More Than Words</i> Program that included a pre-program consultation, 8 parent training sessions and 3 individual video feedback sessions.</p>

Results

Parent results

Increase parental use of strategies

The quality of parents’ interactions was analyzed at baseline and following intervention for both the intervention and control groups. The Joy and Fun Assessment was employed to code video of parent-child interactions during song, book and toy activities for both groups. The Joy and Fun Assessment (JAFA) is an observational checklist, which assesses parental use of nine interaction strategies learned in *More Than Words*. These include use of fun words (such as “whee!”), simplified

language, expansions, fun physical contact, pretend games, turn-taking routines, imitations and expansions. Scores significantly increased from baseline to post-intervention for the parents who attended the *More Than Words* Program and these gains were maintained five-months post-intervention. This significant increase was not found for parents of children in the control group.

The Parent Self-Evaluation Questionnaire was completed by parents who attended *More Than Words* before and after intervention to rate their own use of the strategies learned. A significant increase in scores was found from baseline to post-intervention.

Increase in parent satisfaction

The Satisfaction Survey (SS) was used to determine parents' overall impressions of and their perceptions of the value of the *More Than Words* Program. Parents who attended the program all agreed that their expectations were met and reported being very satisfied or satisfied with the intervention.

Child Results

Increase in communication, socialization, receptive and expressive language

Specific domains of The Vineland Adaptive Behavior Scales (VABS-II) and the MacArthur-Bates Communicative Development Inventory were administered at baseline and post-intervention for both the *More Than Words* group and the control group. The children in the *More Than Words* group were found to have a significant increase in receptive and expressive language as indicated via parent report on the CDI, as well as a significant increase in communication and socialization domains noted on the VABS-II. Video analyses demonstrated an increase in spoken words and gestures for the children in

the *More Than Words* group from pre-to post-intervention; however there was not a significant increase in vocalizations. For the children in the control group, a significant increase in the social domain of the VABS-II was found, however no significant increases in communication, receptive and expressive language were found. There was also no significant difference noted in spoken words, gestures or vocalizations from baseline to post-intervention in the control group.

Summary

The parents who participated in the *More Than Words* Program increased their use of responsive interaction strategies and reported high levels of satisfaction with the program. The children improved their expressive and receptive language and social skills.

This study is significant as it was the first to evaluate the outcomes of the *More Than Words* Program for Malaysian families. Since previous studies on the program have been conducted in western countries, this is a promising indication that the program may be as impactful for families from different cultural backgrounds and who may have different parenting and interaction styles.

Limitations include the small sample size and the fact that the participants were not randomized.

Study #6 *A Randomized Controlled Trial Comparing the Effects of the More Than Words Program with a “Business as Usual” Control Group (Carter, Messinger, Stone, Celimli, Nahmias, & Yoder, 2011)*

<p>Area of investigation</p>	<p>The goals of the study were to test whether participation in the <i>More Than Words</i> Program:</p> <ul style="list-style-type: none"> (1) enhanced parental responsivity to their toddler’s actions, focus of attention and communication; and (2) increased communication in toddlers with symptoms consistent with ASD in comparison with a “business as usual” control group
<p>Research design and Subjects</p>	<p>This randomized controlled trial was conducted at three project sites (cities in the south, southeast, and northeast United States), and families were recruited from specialty clinics, early intervention programs, pediatric and neurology practices, and the online Interactive Autism Network.</p> <p>The study measured children’s communication and parents’ responsivity at three points in time:</p> <p>Time 1: Prior to randomization Time 2: Five months post-enrolment in the <i>More Than Words</i> Program (at the end of the intervention period) Time 3: Nine months post-enrolment in the <i>More Than Words</i> Program (four months after the end of the intervention period)</p> <p>Subjects: 62 children (51 boys and 11 girls) with a median age of 20.25 months who met criteria for autism spectrum disorders, and their parents.</p> <p>Intervention group: 32 children who met criteria for autism spectrum disorders and their parents.</p> <p>Control group: 30 children who met criteria for autism spectrum disorders and their parents.</p>
<p>Intervention</p>	<p>Over a 12 week period, parents attended the <i>More Than Words</i> Program, which included:</p> <ul style="list-style-type: none"> ■ 8 group sessions for parents ■ three home visits (for parent and child) to monitor their progress and provide individualized coaching using videotaping and feedback

Results

Increase in parent responsiveness

Parental responsivity was analyzed at Time 1, 2 and 3. Nonverbal responsivity was coded when a parent assisted the child during play, imitated the child’s actions with a similar object, expanded on the child’s play or responded to a request

from the child. Verbal responsivity was coded when a parent commented on the child’s current focus of attention, or verbally expanded on the child’s communication without being directive.

Parental responsivity was evaluated by measuring statistical significance and effect size. It has been argued that effect sizes provide more meaningful information than statistical significance (Cohen, 1994) since they reflect real world outcomes and allow one to conclude whether “an observed difference is not only statistically significant but also important or meaningful ...” (University of Michigan School of Natural Resources and Environment, 2012).

While the main effect of the *More Than Words* Program on parental responsivity did not reach conventional levels of statistical significance, effect sizes were in the medium to large range at both Time 2 and Time 3. This means that there was a significant difference in the level of responsiveness between the experimental and control groups after the program ended and four months later. The study’s authors commented that the magnitude of the effect sizes of the *More Than Words* Program on parent responsivity was consistent with findings in the McConachie et al (2005) study on *More Than Words* (see page 4) as well as with other studies on parent-mediated intervention (Green, Charman, McConachie, Aldred, Slonims, Howlin, Le Couteur, Leadbitter, Hudry, Byford, Barrett, Temple, Macdonald & Pickles, 2010). Given that *More Than Words* is a parent-implemented intervention, increases in parental responsivity and maintenance of these behaviours is critical since child change is dependent on parents’ applying and maintaining application of responsive strategies (Carter et al., 2011).

Child Outcomes

Significant treatment effect for children with low object interest

There was a significant difference between experimental and control groups for children who played with a limited number of toys. Children who played with fewer than three toys at Time 1 showed gains in the following four areas:

- initiating joint attention
- initiating behavioral requests
- weighted intentional communication (scoring involved weighting communication according to whether it was nonverbal, single symbol or multiple symbol, with more advanced levels of communication being weighted higher)
- parent-reported gains in nonverbal communication

These gains were maintained for a four month period post intervention. It is significant that the children generalized the communication skills learned during interactions with their parents, who provided support as needed, to a new context with an unknown experimenter, who presented new toys and did not provide any support.

The fact that these children’s gains were moderated by their initial toy play is important since toy play is a frequent context for parent-child interaction in responsivity-based treatments, and much of the child’s learning can take place within object-oriented joint action routines (Carter et al., 2011).

It is also important to note that children with greater interest in objects (who played with at least six toys at the time of randomization) did not show the same kind of progress, resulting in changes being made to the *More Than Words* Program to accommodate their more advanced play skills.

Summary

The key findings from this study are:

- Parents who attended the *More Than Words* Program were more responsive to their children than parents whose children participated in “business as usual” treatments and they maintained their responsiveness four months after the program ended; and
- Toddlers who demonstrated minimal interest in toys before their parents attended the *More Than Words* Program showed significant gains in their communication, generalizing new skills to new contexts and strange adults and maintaining these changes for four months post-treatment.

These results confirm that *More Than Words* is an effective intervention for a challenging subset of children – those who show little interest in toys and who are typically very difficult to engage. In addition, it is important to note that, as a relatively low intensive intervention of 12 weeks, *More Than Words* resulted in significant change in children with low object interest who maintained these improvements for four months. This is noteworthy given that many published interventions for children diagnosed with autism require an implementation of several months or even years (Dawson, Rogers, Munson, Smith, Winter, Greenon, Donaldson & Varley, 2010; Rickards, Walstab, Wright-Rossi, Simpson & Reddihough, 2009; Yoder & Stone, 2006) or focus on only one aspect of development such as imitation (Ingersoll, 2006; Kasari, Gulsrud, Wong, Kwon & Locke, 2010; Klein, MacDonald, Vaillancourt, Ahearn & Dube, 2009).

Study #7 *Investigation of the effects of interactive intervention for children with ASD using case study methods (Girolametto, Sussman, & Weitzman, 2007)*

<p>Area of investigation</p>	<p>The study examined the outcomes of three children in relation to their social interaction skills following their mothers’ participation in <i>More Than Words</i>.</p> <p>The study had three aims:</p> <ol style="list-style-type: none"> 1) To confirm that parents used responsive interaction strategies following participation in the <i>More Than Words</i> program 2) To replicate findings from previous studies of increased vocabulary development for children with ASD following the parent intervention; and 3) To examine the children’s social interaction skills following the intervention.
<p>Research design and Subjects</p>	<p>A multiple case study methodology was used to determine whether enhanced responsiveness, which is the underpinning of the social-interactionist model, is associated with hypothesized changes in social interaction skills (Girolametto et al., 2007).</p> <p>This study attempted to improve on the procedures used in the McConachie et al. (2005) study by using microanalytic techniques to code videotapes of mother-child interaction. Using a multiple case study design, it was hypothesized that there would be a positive relationship between parental responsiveness and social interaction skills for children with ASD.</p> <p>Three families of children with a confirmed diagnosis of ASD participated in the study. The children ranged in age from 2.8 – 3.2 yrs.</p>
<p>Intervention</p>	<p>Parents attended the <i>More Than Words</i> Program, consisting of eight group sessions and three individual videotaping and feedback sessions.</p>

Results

Parents’ showed increased use of responsive interaction strategies

Microanalytic techniques were used to investigate mothers’ responsive comments in two contexts – when the child communicated versus when the child was unengaged. All three mothers increased their rate of responsive comments during a play interaction and their gains exceeded those in the Aldred, Green and Adams study (2004), which utilized a similar coding system. The mothers also showed increases on the Jafa rating scale from pre to posttest, which equalled or exceeded the pre-established criterion established by McConachie et al. (2005), using this scale.

Children demonstrated increases in vocabulary development

Children’s vocabulary was measured by parent report on the MacArthur-Bates Communicative Development Inventory and by using videotaped interaction. All three children made vocabulary gains as measured by the CDI. Their vocabulary gains exceeded those made by the intervention group in the McConachie et al. study (2005). The children’s posttest interaction showed that they were using an increased number of different words, which confirmed parent report on the CDI. Mothers reported subjective perceptions of increased vocabulary development on home visit surveys. Thus all three case

studies replicated the posttest increases in vocabulary observed in prior studies using this approach to intervention (Aldred et al., 2004; McConachie et al., 2005).

Children demonstrated increases in social interaction

The most important aim of the study was to examine the children's social interaction skills following their parents' participation in *More Than Words*. The data analysis focused on their rate of communicative acts, participation in social turn-taking episodes and initiation of social interaction. All three children made gains in the rate of communication acts, surpassing the gains made by the experimental group in Aldred et al., (2004). The children also increased their participation in social turn-taking episodes. Two of the three children showed increases in social initiations.

This study extends the findings of McConachie et al.'s (2005) study which did not report any gains in children's social interaction and initiation skills. It also replicates the findings of studies by Aldred et al. (2004) and Mahoney & Perales (2003), which examined similar interactive behaviours using rating scales (Girolametto et al., 2007).

Summary

The findings of this study have important implications. Social-interactionist theory suggests that the more children are engaged in social interactions, providing them with opportunities to practice their social and linguistic skills, the more responsive input they receive from which they can deduce the rules of social interaction, discourse, and language. This suggests that, due to the synergistic nature of caregiver-child interaction, the changes observed in the children's interactive behaviour have the potential to facilitate further development gains in their communication development (Girolametto et al., 2007).

The limitations to this study include the absence of control groups or multiple data collection points. The lack of a control group prevents any conclusions from being drawn about the efficacy of this intervention approach. However, the outcomes highlight the potential of sensitive measures for detecting important changes in the social skills of this group of children.

Study #8 *A Controlled Trial Comparing the Outcomes for Parents and Children Resulting from Parents' Participation in a More Than Words® Program (McConachie, Randle, & Le Couteur, 2005)*

<p>Area of investigation</p>	<p>The study was conducted in order to determine whether:</p> <ol style="list-style-type: none"> 1. Parents who attend a <i>More Than Words</i> Program: <ul style="list-style-type: none"> ■ Use more facilitative interaction strategies; ■ Are less stressed than parents who have not attended this program. 2. Children whose parents attend a <i>More Than Words</i> Program: <ul style="list-style-type: none"> ■ Have better language and communication skills; ■ Have fewer behaviour problems than those whose parents have not attended this program.
<p>Research design and Subjects</p>	<p>This quasi-experimental study compared the outcomes of preschool-aged children with ASD or suspected ASD and their parents (49 mothers and two fathers), who attended a <i>More Than Words</i> Program under two conditions:</p> <ol style="list-style-type: none"> i) Shortly after recruitment (immediate intervention) ii) When a program became available after the child's difficulties had been identified (delayed control) <p>The design made use of a naturally occurring control group.</p> <p>Subjects: 51 preschool-aged children (24 – 48 mos) with ASD or suspected ASD.</p> <p>Intervention group: 26 children, 17 diagnosed with autism (ASD), 9 not core autism (NCA - did not meet all criteria for diagnosis of core autism).</p> <p>Control group: 25 children, 12 diagnosed with autism, 13 not core autism.</p> <p>Outcome measures were administered at recruitment (time 1) and approximately 7 months later (time 2), which was 4 months post-program.</p>
<p>Intervention</p>	<p>Parents attended the <i>More Than Words</i> Program, with each family receiving:</p> <ul style="list-style-type: none"> ▪ 20 hours of instruction in eight parent training sessions in groups of eight families ▪ three home visits (for parent and child) to monitor their progress and provide individualized coaching using videotaping and feedback

Results

Increase in parent responsiveness

Parents in the intervention group scored significantly higher on the JAFA than parents in the control group, when their children had a positive diagnosis of autism. Parents of children without a confirmed diagnosis of autism (NCA – not core autism) did not change significantly relative to the control group, raising the possibility that the impact of *More Than Words* is “. . . greater for parents of children with core autism, where the strategies introduced are particularly empowering, after they have struggled to capture the attention of their child, have found their child’s self-directed behaviour hard to interpret as communication and so may have felt unable to interact or play with their child” (McConachie et al., 2005, p. 339).

Increase in child vocabulary

A significant difference was found between the experimental and control groups in terms of children’s vocabulary size, as measured by parental report on the MacArthur-Bates Communicative Development Inventory (CDI).

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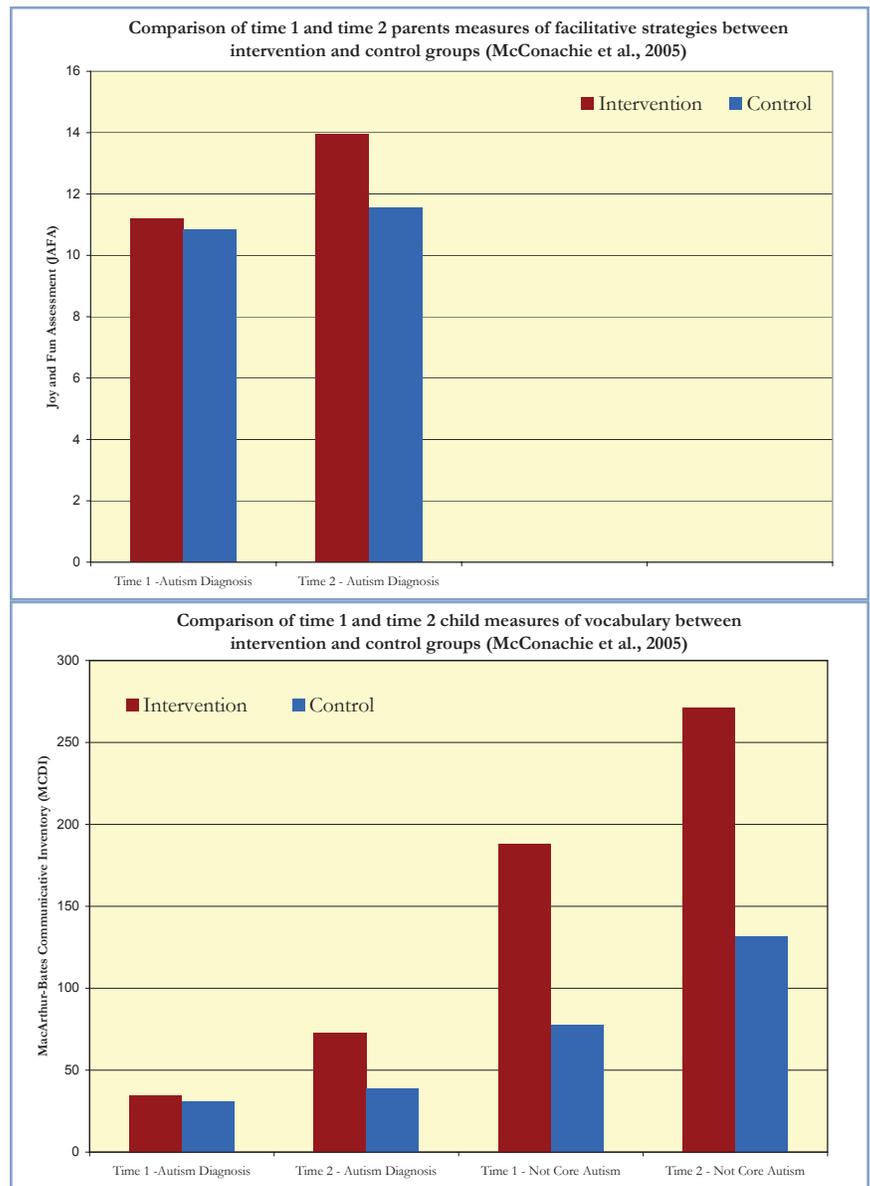
Social communication skills as measured by the Autism Diagnostic Observation Schedule (ADOS) did not differentiate between the two groups of children at post-test. However, it is feasible that the study did not use sufficiently sensitive measures of dyadic interaction to examine outcomes in children’s joint engagement (Girolametto et al., 2007). There were no significant differences for child behaviour or parental stress between the two groups.

Summary

This study had two key findings:

- Parents are able to learn and apply the interaction strategies that are likely to facilitate their child’s communication development, especially when the child has a confirmed diagnosis of autism
- The children whose parents attended *More Than Words* had larger reported vocabularies, regardless of whether they had confirmed or non-confirmed autism

These results provide preliminary evidence that *More Than Words* may positively impact parent-child interactions and early language skills in autistic children.



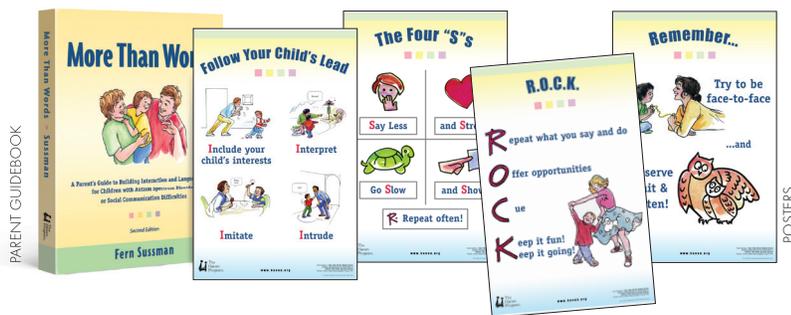
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Available More Than Words Resources

For more information, contact The Hanen Centre or visit us online at www.hanen.org



Helping You Help Children Communicate

The Hanen Centre is a not-for-profit charitable organization devoted to helping parents become their child's most important language teacher. We train speech-language pathologists to engage, support and coach parents and educators to develop the skills to effectively foster young children's early language, social communication and literacy development within natural everyday activities. This includes children with or at risk of language delays, young autistic children, and children who may benefit from social communication support.

1075 Bay Street, Suite 515 ■ Toronto, Ontario ■ M5S 2B1 ■ Canada
Tel: 416-921-1073 Fax: 416-921-1225 info@hanen.org www.hanen.org

