

## 다운증후군 아동과 정상아동의 보호자와의 사회적 상호관계에 대한 비교연구

### Social Interaction of Caregivers and Their Children with Down Syndrome or Without Disability

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#### 요약

아이들의 사회성 발달에 있어 정서에 대한 이해는 매우 중요한 역할을 한다. 장애를 갖지 않은 아이들은 특별한 중재 없이도 정서적 발달을 하지만 장애를 가진 아이들, 특히 정신 지체 아이들은 부모의 양육태도에 따라 정서적 발달이 다르게 나타난다는 연구결과가 보고되고 있다. 이에 본 연구에서는 10명의 다운증후군 아이들과 부모들 그리고 비교 그룹으로서 15명의 장애가 없는 아이들과 부모들을 대상으로 아이들과 부모들 사이의 상호 의사소통 하는 방법을 비교 분석하였고, 이를 토대로 다운증후군 아이의 부모들이 자신의 자녀들의 정서발달에 도움이 되는 적절한 의사소통 방법을 제공하고자 하였다. 예측했던 바와 같이, 다운증후군 아이들의 부모들이 비교그룹에 비해 행동적 표현과 관심을 이끌어 내려는 의사소통을 많이 한데 비해, 장애가 없는 아이들의 부모들은 대화중심 위주의 의사소통을 하였으며, 또한 정서와 관련된 표현을 많이 하였다. 이에 반하여 다운증후군 그룹은 색깔이나 모양에 대한 이름을 강조하는 등 좀 더 인지적인 면에 중점을 두면서 아이들과 의사소통을 했다. 따라서 다운증후군 아이들의 보다 적절한사회성 발달을 위해서는 부모들이 인지적인 면과 더불어 정서적인 측면을 강조하는 의사소통 방법을 수립할 필요가 있는 것으로 사료된다.

■ 중심어 : | 부모의의사소통방법 | 다운증후군 | 사회성발달 | 정서발달 |

#### Abstract

This study investigated caregivers' communication styles and children's emotional development. Emotion-laden puzzle tasks were used to elicit caregivers' communication styles while interacting with their children. Participants included children with Down syndrome (N=10) and typical children (N=15) and their caregivers.

As expected, caregivers of children with Down syndrome (DS) used more behavior and attention directives with their children, and caregivers of typical children used more conversation-eliciting prompts with their children. Parents of children with Down syndrome also used a unique communication style in which they asked a question and immediately answered it themselves. Additionally, caregivers of typical children focused more on emotion concepts in their communications with their children and caregivers of DS used more cognitive concepts such as labeling colors and shapes. The results revealed that caregivers of children with Down syndrome usually tried to educate children by emphasizing cognitive concepts to compensate for their delayed development. Because the children are delayed in their emotional development, parents may need help in intervening on the area of emotional development.

■ keyword : | Down syndrome | Social Interaction | Emotional Development Communication Styles |

## I. INTRODUCTINON

To function social interaction properly, it is critical to understand of emotion in oneself and

others. Typical children develop an understanding of emotion in a natural way, and they generally do not need much prompting from parents to grow in their emotional development. Children with

developmental disabilities, such as Down syndrome however, may require intervention in order to develop their understanding of emotion. Differences in emotional development may have significant effects on the areas of social development and in the child's interactions with others, including peers and caregivers.

To compensate for differences in development, caregivers of children with developmental disabilities may interact with their children in particular ways. Observing the interactions of caregivers and children in tasks that involve social, cognitive and emotional features may yield important information on what caregivers see as important to highlight in their interactions with their children. Thus, there are three goals of the current study. The first is to assess whether caregivers of children with Down syndrome, and children without disabilities differ in the use of emotion-related utterances in their communication styles with their children, and if so, how. The second is to examine the emotional, cognitive, and language abilities of young children with Down syndrome and typical children. The third is to investigate whether there are links between caregiver communication strategies and children's emotional and cognitive development in these two groups.

### *Emotional Development*

Much research has been dedicated to exploring children's understanding of emotion, which is defined as children's ability to recognize emotions, the ability to understand what caused these emotions, and how these emotions can be applied to their own realm of experience and the emotional experiences of others[1]. These skills are shown to be critical for social competence in children[2].

### *Child-Caregiver Social Interactions in The Two Groups*

Children's understanding of emotion is developed within caregiver-child relationships[3]. For example, through emotion-related caregiver-child conversations, children learn to understand emotions[4]. The accuracy of the caregiver's emotion-related language is directly connected to a child's ability to label emotional expressions. It is documented that the rate of children's emotional understanding increases according to the caregiver's ability to talk about these emotions with their children [5]. Vygotsky concluded that the development of language and emotion concepts are interdependent, originating in social interactions with caregivers[6].

To date, regardless of the fact that a caregiver plays a critical role in a child's emotional development, there is no study specifically examining caregiver-child conversations following emotion-related activities. The goal of this study is to answer four basic questions related to the two groups of caregivers and children regarding 1) the differences of caregivers' utterance types and communication styles with their children: 2) the differences between the two groups in children's understanding of emotion: 3) the relationship between caregivers' communication types/styles, and children's understanding of emotion: and 4) the differences between the two groups between child characteristics and caregivers' communicative behaviors.

## II. METHOD

*Participants.* Participants consisted of 10 children with Down syndrome, and 15 typical

children. The average chronological age of the children with Down syndrome was 41.40 (SD=3.75) and that of typical children was 28.53 (SD=6.21). The two groups of the children were recruited to match the mental age

Comparison participants were recruited through local Down syndrome parents associations and regional centers and day care centers in the greater Los Angeles area. After completing the test session, comparison children were compensated for their time with small toys. Caregivers of the two groups also were assessed regarding their utterance types and communication styles during their interactions with children to complete the puzzle tasks.

In addition to child's mental age, receptive and expressive language abilities, this study also matched caregivers' educational level, and both caregivers' and children's mean length of utterances (MLU). By matching these variables, this study was able to more accurately measure dependent variables, ensuring accuracy of the outcomes.

*Emotion puzzle tasks.* The caregiver and the child were given two sets of emotion puzzles. Each puzzle took about 3 to 5 minutes to complete, depending on how much help the child was receiving from the caregiver to finish the puzzle. These puzzles were created by Kasari in 1995 to examine the emotional development of the children. The researchers, who were experienced in this type of assessment, followed exact protocol when asking the caregiver to talk about the puzzle with the child for about 2 minutes after completion. Each puzzle consisted of 4 to 6 pieces and revealed, upon completion, scenes that provoked certain emotions, such as happiness, sadness, fear, or surprise. The caregiver was asked to talk about the puzzle with the child. No indication was given to the caregivers that they

should talk about the emotions that the caregiver-child dyad sensed from the puzzle.

*Three categories of caregivers' communication styles*

- Behavior directives, such as giving commands or permission (i.e., you can play with the toys later, after we finish puzzle).

- Attention directives, such as attracting, directing, or redirecting attention(i.e., look at the girl!).

- conversation-eliciting utterances, which encourage the child to verbally elaborate about a specific subject (why do you think that girl in the puzzle is smiling?).

*Emotion recognition and expression tasks.*

After completion of the puzzle tasks, the child was given emotion recognition and expression tasks. These emotion tasks were developed to investigate the emotion recognition abilities of typical preschoolers [2]. The tasks allowed researchers to assess children for four emotions: "happy, sad, angry, and afraid." Puppets were used to interact with the child.

In the recognition task, the researcher gave the puppet a name (same gender as child). Then the researcher shuffled faces and placed all four on table. The child was then asked to pick the appropriate face when the researcher asked "Show me where the sad face is, etc." After each trial, the researcher shuffled faces and selected another emotion.

*Measurements.* For the emotion puzzle tasks, parent-child interactions were videotaped, and all their utterances were transcribed. Two UCLA undergraduate students, blind to the purpose of the study, then analyzed the dyads' utterances, coding the utterances according to caregivers' frequency of use of utterances within Pine's (1994) three categories: behavior directives, attention directives, and

conversation-eliciting utterances. In addition, a fourth category was added after reviewing tapes. This category was labeled "Ask & Answer." Each of these categories was subdivided into

2 types of utterances: cognitive-related, and emotion-related utterances. The videotapes were transcribed, analyzed and coded.

### III. RESULTS

The results consist of three sections. The first section examines demographic backgrounds of children within the two groups, and includes data on children's understanding of emotion. The second section compares caregivers' utterance types and communication styles with their children. In the third section, associations are presented between caregivers' communication behaviors, and children's characteristics, including their understanding of emotion.

#### 1. Preliminary Analyses

Demographics in the three groups. Table 1 depicts that there were no significant differences between the two groups, except for chronological age. The Down syndrome group had 10 children, and the typical group numbered 15 children. In order to conduct a reasonable comparison with the relatively higher functioning typical group, it was necessary to choose an older age group of children with Down syndrome. There were no significant differences between these groups (see Table 1).

**Table 1. Demographic Information for Etiological Groups**

Variables	Down syndrome	Typical	p
	M(SD) N=10	M(SD) N=15	
Child's age	41.40 (3.75)	28.53 (6.21)	0
Child's mental age	30.90 (4.63)	35.13 (5.28)	Ns
Receptive language	31.70 (2.26)	35.47 (4.31)	Ns
Expressive language	29.30 (3.47)	33.80 (4.71)	Ns
Child' MLU	2.03 (0.76)	2.59 (0.68)	Ns
Caregiver's MLU	4.95 (0.56)	5.23 (.48)	Ns
Caregiver's age	35.43 (4.59)	35.29 (5.24)	Ns
Caregiver's education <sup>a</sup>	7.20 (0.42)	7.00 (.38)	Ns
Ethnicity (Caucasian: non-Caucasian)	7:03	11:4	Ns

\*  $p < .05$  \*\*  $p < .01$

#### 2. Caregivers' Communication Styles in the Two Groups

Hypotheses and findings. The first hypothesis was that caregivers of typical children would focus more on emotional concepts in their conversation with their children, whereas caregivers of children with DS would focus more on cognitive concepts. The findings of this study confirmed this hypothesis.

Since the dependent variables were two between the two groups, ANOVA was performed. The analysis examined whether there was a group difference on the frequencies of cognitive or emotional concepts by caregivers.

The first hypothesis predicted that caregivers would differ in their use of communication styles with their children. Specifically, this study hypothesized that

a) Caregivers of children with DS would use more behavior and attention directives than caregivers of typical children.

b) Caregivers of typical children would use more conversation-eliciting communication styles than caregivers in the atypical groups.

All utterances by caregivers were counted and divided into three communication styles (behavior directives, attention directives, and conversation-eliciting utterances) for each of the three groups.

ANOVA was chosen for data analysis to determine the differences between the two groups. Results yielded a significant overall effect, Willks' Lambda  $F(1, 23) = 14.08, p < .001$ . As shown in table 2 and figure 2, ANOVAs yielded significant group effects for behavior directives  $F(1, 23) = 30.56, p < 0.001$ , attention directives  $F(1, 23) = 3.91, p < 0.05$ , and conversation-eliciting communication styles  $F(1, 23) = 46.94, p < 0.001$ . Post-hoc, Tukey-HSD tests were performed to provide further clarification of which groups different from which groups. The results of the Tukey-HSD multiple comparison tests indicated that general differences were observed between the DS group and typical group (see Table 2).

**Table 2. Caregiver's Communication Styles**

Communication Styles	DS	Typical	F	Significance of Difference
Behavior Directives Mean (SD)	24.00 (3.2)	15.93 (3.4)	30.56***	DS > Typical
Attention Directives Mean (SD)	22.60 (4.3)	19.73 (4.6)	3.91*	DS > Typical
Conversation Mean (SD)	13.70 (4.4)	24.07 (3.2)	46.94***	Typical > DS

. \*  $p < .05$ , \*\*\*  $p < .001$

The second hypothesis stated that there would be links in the two groups between child characteristics and caregivers' communicative interactions: Specifically,

a) Children with higher language abilities would have better emotional understanding.

b) Children's emotional understanding will be associated with caregivers' utterance types,

meaning that caregivers who use more emotional utterances would have children with higher emotional understanding.

Based on the scores achieved by each child, the mean scores for each emotion could be determined for each group. This is shown in Table 3.

**Table 3. Links of Caregivers' Behaviors to Child Characteristics**

		Behavior	Attention	Conversation	Ask & Ans.	Cognition	Emotion
DS	Express	-.29	-.20	.36	-.11	-.12	-.03
	Recognize	.27	.15	-.26	-.37	-.12	-.60
Typical	Express	.16	-.04	-.50	.19	-.27	-.20
	Recognize	-.02	.12	-.23	.23	.08	-.21

\*  $p < .05$

ANOVA was performed to determine the differences among the two groups. Results yielded a significant overall effect, Willks' Lambda  $F(1, 23) = 283.42, p < .001$ . As shown in table 3 and figure 4, follow-up ANOVA was chosen to analyze each emotion. The results yielded significant group effects for "sad"  $F(1, 23) = 24.2, p < 0.001$ , "angry"  $F(1, 23) = 57.62, p < 0.001$ , and "afraid"  $F(1, 23) = 24.2, p < 0.001$ . The results of the Tukey-HSD multiple comparison test indicated that none of the groups differed in their recognition of "happy," but the Down syndrome groups showed significantly lower scores than the typical group when identifying "afraid" and "angry." The Down syndrome group also scored significantly lower than the typical group in identifying "sad" in both recognition and expression (see Table 4).

**Table 4. Emotional Understanding**

Emotion	DS	Typical	F	Significance of Difference
Happy Mean(SD)	3.80(.6)	4.00(0)	1.54	DS / Typical
Sad Mean(SD)	1.80(1.4)	3.87(.4)	24.2***	Typical > DS
Angry Mean(SD)	.60(.7)	3.40(.7)	57.62***	Typical > DS
Afraid Mean(SD)	.10(.4)	3.53(.5)	24.2***	Typical > DS

. \*  $p < .05$  , \*\*\*  $p < .001$

note. Mean of scores for each emotion differ among the three groups.

Subscripts differ significantly at  $p < .05$ , on the basis of the tukey-HSD correction.

Links of parental behaviors to child characteristics. Table 4 shows how caregivers' communication styles are associated with child characteristics.

Caregivers of the DS group used more behavior directives with younger children. However, these caregivers used more conversation-eliciting styles with children who show higher expressive language abilities. Also, they used more emotion-related utterances with children who had higher mental ages and higher receptive language abilities. Caregivers of the typical group used more behavior directives with developmentally younger children and more attention directives with developmentally older children .

#### IV. DISCUSSION

The present study investigated the communicative interactions of children with their mothers as they completed emotionally charged puzzles. There were four main findings. First, as this study hypothesized, and consistent with

previous studies, caregivers of the atypically developing children were more behavior directive in their communicative interactions than the caregivers of the typical children. Specifically, caregivers of children Down syndrome used more attention and behavior directives, whereas caregivers of typical children used more conversation-eliciting behaviors.

The increase in directive interactions has been viewed as both negative [7] and positive [8] for children's later development. Some researchers have found that parents may be overly directive with their children, thus not allowing them to develop to their potential [9]. However, many of these studies are based on data from one point in time. Those studies that have examined the

effect of directive behavior on children with autism and Down syndrome over time find overall positive results [11],[12]. Thus some researchers note that children with DS need greater prompting and scaffolding to engage them in interactions than typical children. According to this viewpoint, parents are actually helping their children to learn through the use of more directive behavior. The difference in conversation-eliciting communication by caregivers of typical children suggests that there may be a downside to being overly directive with children. It was further noted that the typical group only needed some conversation-eliciting utterances to prompt them to interact.

Second, the content of communications also differed for the dyads. One hypothesis of this study predicted that caregivers of typical children would focus more on emotional concepts in their conversations with their children, whereas caregivers of children with autism and DS would focus more on cognitive concepts. As shown in Figure 1, caregivers of typical children discussed the emotional content of the puzzles more so than did caregivers of children with Down syndrome.

Finally, developmental and language abilities of their children were associated with emotional communications of the caregivers for the children with Down syndrome. This result confirmed the hypothesis that children's language ability is related to their level of emotional understanding. This study also examined the links between caregivers' communication strategies and children's understanding of emotion in order to validate the hypothesis that caregivers who use more emotional concepts will have children with greater emotional understanding.

Results revealed no significant relationships between caregivers' more frequent use of emotional concepts and children's abilities to understand emotions.

## ■ REFERENCES ■

- [1] Cassidy, J., Parke, R., Butkovskis, L., & Braugard, J. "Family-peer connections: The roles of emotional expressions within the family and children's understanding of emotions." *Child Development*, Vol 13, pp.603-618. 1992.
- [2] Denham, S., & Couchoud, E.A. "Young preschoolers' understanding of emotion." *Child Study Journal*, Vol 20, pp.171-192. 1990.
- [3] Laiable, D. "Mother-child discourse in two contexts: Factors that predict differences in the quality and emotional content of the discourse and the consequences of those differences for socioemotional development." *Developmental Psychology*, Vol 40, pp.979-992. 2004.
- [4] Thompson, R., Laible, D., & Ontai, L. "Early understandings of emotion, morality, and self: Developing a working model. In R.v.Kail (Ed.)," *Advances in child development and behavior*, Vol 31, pp. 139-172. San Diego: academic, 2003.
- [5] Knieps, L.J., Walden, T.A., & Baxter, A. "Affective expressions of toddlers with and without Down syndrome in a social referencing context." *American Journal on Mental Retardation*, Vol.99 pp.301-312, 1994
- [6] Vygotsky, L. "Mind in Society: The development of higher psychological processes," Cambridge, MA: Harvard University Press. (Original works published 1930, 1933, 1935). 1978.
- [7] Mahoney, G., & Pwell, A. "Modifying parent-child interaction: Enhancing the development of handicapped children." *The Journal of Special Education*, Vol 22, pp.82-96. 1998.
- [8] Ciielinski, K., Vaughn, B.E., Seifer, R., & Contreras, J. "Relations among sustained engagement during play, quality of play, and mother-child interaction in samples of children with Down syndrome and normally developing toddlers." *Infant Behavior and Development*, Vol 18, pp.163-176. 1995.
- [9] Lewis, M. & Michalson, L. "Children's emotions and moods: Developmental Theory and measurement. New York: Plenum, 1983
- [10] Crawley, S.B. & Spiker, D. "Mother-child interactions involving Two-year-olds with Down syndrome: A look at individual differences." *Child Development*, Vol 54, pp.1312-1323. 1983.
- [11] Lemanek, K., Stone, W., & Fishel, P. "Parent-child interactions in handicapped preschoolers: The relation between parent behaviors and compliance." *Journal of Clinical Child Psychology*, Vol 22, pp.68-77. 1993.