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Taiwanese Mothers' Perceptions of Parent-Infant Interaction With Children With Down Syndrome

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Parent-child interaction is a cornerstone of early intervention. Caution is necessary, however, in transferring models of early intervention developed in one culture to parents from a different culture. It is essential that early intervention be grounded in an understanding of how parents from different cultures might perceive their interactions with their children. The current study analyzed interviews with 16 Taiwanese mothers of babies with Down syndrome. Interviews were analyzed using emergent themes related to perceived benefits of parent-child interaction for children's development and to parental roles that support these benefits. The perceptions captured in these interviews appear to reflect cultural views of parent-child interaction as well as parents' perceptions of and adaptations to the characteristics and needs of their babies with Down syndrome.

> She likes to grab my hair now. When I hold her, she grabs my hair. . . . It really hurts. . . . But she does it. . . . I let her play [with it] because at least she wants to grab things. It is good for her because, in general, the development of this kind of child is delayed. (Taiwanese mother)

In early intervention, birth-3, parent-child interaction interventions implemented to change the developmental trajectory of children with disabilities are based on assumptions about the centrality of parent-child relationships to the learning and development of young children (McCollum & Hemmeter, 1997). For example, certain maternal behaviors such as sensitivity, responsiveness, and warmth are thought to facilitate children's development, whereas a behavior such as directiveness is often viewed as having negative effects (Kelly & Barnard, 2000). Past studies have shown that mothers of children with disabilities are more directive and controlling with their children (Marfo, 1990; Roach, Barratt, Miller, & Leavitt, 1998), and a primary focus of interaction interventions when young children have disabilities has been to change the characteristics of parent-child interaction to parallel more closely "ideal" characteristics identified in the literature. Past studies comparing parents' interactions with children with and without disabilities also indicate, however, that parents of children with disabilities might hold different perceptions or values regarding their children (Marfo & Kysela, 1988). In addition, cautions have been raised with respect to assuming that the same maternal behaviors have similar relationships to development when children have disabilities (Mahoney, Fors, & Wood, 1990; Marfo, 1990). Behaviors such as directiveness might represent helpful adaptations to the child's needs, and might support the child's ability to participate in and learn from parent-child interactions. When children have Down syndrome, they might bring characteristics to the interaction that call for differing parental behavior to achieve participation and accomplishment within the interaction (McCollum & Bair, 1994).

A sociocultural perspective raises additional cautions with respect to interpreting parent-child interaction without considering the relationships among parental beliefs, parental behavior toward their children, and children's developmental outcomes (Harkness & Super, 1996). Caution is especially critical when families are different from those represented in the developmental research on which the goals and processes of most studies of interaction intervention have been based (Garcia, Perez, & Ortiz, 2000; McCollum & Yates, 2001). Parents from different cultures draw upon their own cultural belief systems to make sense of parenting, to set goals for their children, and to make decisions about their roles in assisting their children's development (Greenfield & Suzuki, 1998), irrespective of whether their children have disabilities.

Given the diverse socioeconomic, cultural, and linguistic backgrounds of children and families early intervention serves, it is important to understand the types and sources of similarity and difference among families with respect to their parenting. It is also important to understand how values and perceptions with respect to parent-child interaction might be similar to or different from those related to interaction with children who do not have disabilities, within the same culture. For instance, in some Asian cultures, having a child with a disability might be viewed as a punishment for sins of ancestors or parents. The child, therefore, might be considered an object of shame for the family (Raghavan, 1998). This might influence both the types of interactive situations to which the child is exposed and the families' perception of the goals being fostered by the interaction. Parent's ideas about appropriate parenting behaviors within the context of parent-child interaction might also be related to differing cultural backgrounds. Thus, without understanding parents' beliefs about why and how they interact with their children, early interventions that aim to change particular characteristics of parent-child interaction run the risk of being perceived by parents as less than meaningful or even as harmful to their children (McCollum & Yates, 2001).

In our ongoing program of research, we are conducting interviews with mothers from a number of different cultural backgrounds. To remain open to important themes in how mothers from different cultures perceive their interactions with their babies, including their babies with disabilities, we use a qualitative approach (Miles & Huberman, 1994). We began this research by interviewing families of children who were typically developing, to place mothers' descriptions of interactions with their babies with disabilities within the context of what is typical for their culture. We have engaged in an ongoing process of deriving themes and coding interviews, using a research team that includes faculty and doctoral students from different cultural backgrounds. The emergent themes that we have thus far examined in greater depth relate primarily to what parents perceive to be the benefits and outcomes children gain from parent-child interaction, and the roles that parents perceive themselves to play in relation to these outcomes.

In one previous set of analyses (Chen, 1999), we examined interviews with 13 Taiwanese mothers whose 12-month-old babies (range: 11–13 months) were typically developing. We found that these 13 mothers viewed parent-child interaction as making an important contribution to four primary developmental domains (cognitive, emotional, physical, and social), of which cognitive and emotional were the most prominent. Less emphasized domains included academic readiness and adaptive life goals. The primary roles that mothers mentioned in relation to these benefits were those that we called facilitator, director, and caregiver. Of somewhat lesser importance were roles that we labeled as play partner, entertainer, being a model, and being an available presence. By analyzing benefits and outcomes in combination with associated maternal roles, we found that when these 13 Taiwanese mothers talked about cognitive outcomes, they were most likely to describe a director or facilitator role, whereas emotional benefits were most often linked to a caregiver role. Social benefits were linked to a director role. (Portions of these data, as well as data more specifically focused on social competence, have been published in Chen and McCollum, 2000, and McCollum and Chen, 2001).

In the current article, which is based on the first author's dissertation (Chen, 2001), we examined these same themes in interviews with 16 Taiwanese mothers of babies with Down syndrome. The purpose was to explore whether the same emphases on particular outcomes and roles would be apparent in the perspectives of mothers from the same cultural background as those in our previous study. Research questions were: (a) What developmental benefits or outcomes do mothers of children with a disability perceive during parent-child interaction?, (b) How do these mothers perceive their roles in assisting their children to achieve these benefits?, and (c) Which roles are mothers most likely to relate to particular benefits?

METHOD

Participants

Sixteen mothers of children with Down syndrome were recruited through the Organization of Parents of Children with Down Syndrome and the pediatric departments of four tertiary hospitals in Taiwan, representing a sample of convenience from among families known to these sources at the time of the study. These mothers were those who gave their names to these organizations after the organizations informed them of the study. Fifteen of the 16 mothers were married. The mothers' ages ranged from 21 to 45 years with a mean of 31.8 years. Seventy-five percent of the mothers were not employed outside of their homes, although 19% of them were wage earners who worked from their homes. The mothers' educational levels ranged from less than 6 years of education to college graduates; the average level of school completion was high school or vocational school (25%), with an equal number of participants (38%) having either more (college degrees) or fewer (elementary or middle school) years of education.

The children averaged 12.3 months of age (range of 7 to 16 months) and 69% were boys (11 out of 16). Eight of the children were firstborn. Estimates of the developmental status of the children were based on a 28-item developmental checklist completed by the mothers. Items were selected from the Ages and Stages Questionnaire (ASQ; Squires, Potter, & Bricker, 1995), and were items that the authors felt would be easily observable by the mothers in each of the areas of communication, gross motor, fine motor, personal-social, and problem solving. Seven, six, seven, and eight items, respectively, were selected from the ASQ forms for ages 6, 8, 12, and 16 months. For each item, the mothers checked a box indicating whether their children were able to do the activity in question. The ASQ is written at a 4th–6th grade reading level; for this study, the first author translated it into Chinese and a second translator checked the translation. The results of mothers' ratings on this scale was used for descriptive purposes only; based on the information from this checklist, children ranged from 3–10 months of age in their development (average of approximately 7 months).

Procedures

Mothers of children with Down syndrome who agreed to participate in this study were contacted by phone to set up a time for the interview. Fourteen of the mothers were interviewed in their homes. Two mothers were interviewed via phone because of the difficulty in arranging personal interviews due to distance. The first author conducted all interviews in Mandarin or Taiwanese and tape-recorded them for later transcription. Interviews lasted an average of about an hour, ranging from 30–70 minutes.

Mothers were told that the purpose of the study was to understand parents' beliefs about parent-infant interaction and play. To establish an informal atmosphere, mothers were first asked to describe a typical day when they were together with their children. After the warm-up period, mothers were asked to respond to two picture vignettes depicting an adult-child dyad interacting with and without an object. Picture vignettes were line drawings of a parent and child. The drawings were taken from videotaped images, and were made purposefully vague so that ethnicity was not discernible and so that parents could interpret the picture from their own perspective. For each picture vignette, questions were presented to the mothers in a specific sequence: "What do you think might be happening in this picture, and what similar things do you do with your baby?," "What benefits do you believe babies get from this kind of interaction?," and "What do you believe parents should do during this kind of interaction to help their children achieve these benefits?" The investigator described the picture vignettes to the two mothers who were interviewed by phone. The mothers in this sample were also asked to comment on their perceptions of the development and learning of a child with Down syndrome as compared to those of a typical child. At the end of the interview, mothers were asked to complete a family information form and the milestone questionnaire. Questions on the family information and the milestone questionnaire were read to the two mothers who were interviewed over the phone.

As in all of our interviews, our primary focus in this study was on parent-child interaction contexts common in early interaction intervention: face-to-face social interaction and joint interaction with objects. Nevertheless, probes used to elicit information about parent-child interaction within the daily routine often led to information about other important parent-child contexts as well (e.g., going on walks together, going together to visit a relative). Additional topics in the interview also included who else interacts with the baby in these ways and information on the mothers' goals for the child in the future (Harwood, Miller, & Irizarry, 1995). Within the context of these broad questions, the interview process was relatively unstructured. The entire interview was used as a data source for examining themes, irrespective of the particular section of the interview in which the response occurred. (Copies of the interview protocol are available from the authors).

After the interviews, transcripts were sent to mothers as a member-check on the results of the interview. Mothers were asked to change or expand the interviews in any way they wished. Eight out of 16 mothers responded; all 8 indicated that there was no need to change or expand the interview. The other 8 mothers did not return the transcripts. There were no apparent demographic differences between those who did and did not return the transcript. After transcripts were translated into English, another individual fluent in Taiwanese, Mandarin, and English checked the translations.

Data Analysis

Qualitative procedures described by Miles and Huberman (1994) were used to address the research questions. The two themes addressed in this study, developmental benefits and parental roles during parent-child interaction, were among the first to emerge from our continuing analyses, and are the ones that we have thus far explored in the greatest depth. Initially, each team member separately read the interviews to derive potentially important themes, using a process of constant comparison. This was followed by team discussion and selection of salient themes. To represent the two themes described here, categories have been derived through an ongoing process in which subthemes emerging from the interviews were developed into categories that appeared to capture mothers' values with respect to roles and benefits during parent-child interactions. Procedures for categorizing data mirror those procedures used to develop the themes: Members of the research team first independently read each interview and then discuss the interview during a team meeting to achieve consensus. As we work, we remain open to other emergent categories or to changing nuances within categories. This has been particularly helpful as we read across mothers from different cultural groups, because it does

Table 1.
Categories and Examples: Developmental Benefits From Parent-Child Interaction

Categories	Definitions
Cognitive	Ability to understand how the world works and use words or language (Example: "Letting him learn something. Like he doesn't know what this is. Letting him touch it. For example, the empty box, you can ask him to beat it and make sounds.")
Emotional	Motivation, persistence, satisfaction, enjoyment, confidence, self-motivation, not being alone, and good relationships with others (Example: "If you spend more time with your kids, they will be closer to you, too. If you are together more often, he would be happy when he sees you.")
Social	Ability to interact with others appropriately (Example: "Her grandma plays this game with her, too: 'Hands and back of hands. Sweet baby.' Then she shakes her. She is very happy with that. So she grabs your hands to request this game. She wants the interaction.")
Physical and Health	Development of physical skills, to be safe and healthy (Example: "Most of the time we do exercises with her to practice her sitting and running. We are waiting for her to strengthen her muscles.")
Adaptive Life Skills	Refers to personal future well-being, such as the ability to get a job or be independent (Example: "For normally developing children, they know how to dress and put their shoes on by themselves. But for him, you have to spend twice the time with him. . .I teach him right now. For example, when you dress him, you tell him, 'I'm going to put your shirt on, raise your hand.' Something like that. . .You can only input data right now. . .He cannot make output yet.")
Academic Readiness	Outcomes associated with academic/educational achievement (Example: "If there are five blocks I will count 1, 2, 3, 4, 5 to him, and teach him to know the numbers.")

not force us to apply existing categories that might not adequately represent what is being said. Consistency across mothers and across time is ensured through a process of summarizing all units of thought under its respective category. Individual members of the research team then independently read this summary and subsequently discuss it in a team meeting to reach consensus.

All interviews were analyzed using six categories related to developmental benefits and seven corresponding to parental roles (see Tables 1 and 2). No new categories with respect to roles emerged from reading these interviews with mothers whose children had Down syndrome, although some expansions of meaning were necessary within categories (as had also occurred when beginning analysis of interviews with mothers of different cultural groups). For example, the meaning of "providing opportunities" within the facilitator role was expanded to include these mothers' emphasis on seeking out resources to support their children's development. The theme of benefits and outcomes across domains took on a more inclusive meaning as well. For instance, mothers in this sample placed more emphasis on their children's motor delays and health issues, whereas previous interviews had yielded physical outcomes related primarily to safety. Additional themes not salient in previous interviews also emerged. Two of these are examined in a separate paper (McCollum & Chen, in press).

Each unit of thought containing a developmental benefit or a parental role was identified in the transcript and categorized for type of benefit and role. A unit of thought (or statement) representing a child benefit or a parental role could range from a few words to two or

Table 2.
Categories and Examples: Parental Roles

Categories	Definitions
Facilitator	Indirect teaching, such as praise, provide opportunities, respond to child's need/ interest, or provide support toward child's goal (Example: "I think parents should tell them to let them know things. Providing them opportunities to contact things.")
Caregiver	Take care of the child's general well being and safety, show affection, and keep the child occupied and out of trouble (Example: "I have to watch the toys I give him. . .the toys cannot be too small, because he would put them into his mouth.")
Director	Direct teaching, such as reinforcing accomplishment of the parent's goal for the child, showing, demonstrating what it is, or how to play with it; parent has a goal in mind or an idea of the right way to do it (Example: "Like I teach her how to wave 'bye-bye.' After a while she was able to do it after me. Let's take another example. . .clapping hands. . .If you don't show her and hold her hands to do it, she would not do it. I just have to keep repeating.")
Entertainer	Entertain or stimulate to get an emotional response (Example: "Sometimes, we would play riding the horse, and he would be very happy. I would laugh with him. We just move together. . .I would exaggerate my movements. And when he laughs, I would laugh with him.")
Partner	Take a role as a play partner with child (Example: "I talked to him face to face, then I held him. I talked to him, then he would say something back to me, 'I— I— Ya— Ya—' I kept playing with him.")
Modeling	Being a model or setting an example for the child (Example: "Parents should do their best to let the child feel that the family is harmonious. There is no anger. Everyone has a good time playing together. Show him that everyone is happy.")
Available Presence	Be emotionally available, in the sense of being ready to respond when child seeks emotional affirmation, emotional support, or emotional information (Example: "I watch him when he is playing with the baby powder. Sometimes I call him to let him see me. He will smile at me.")

three sentences or even adjacent paragraphs, so long as the same idea was being expressed. For example, each of the following would be categorized as an emphasis on a cognitive outcome: "He is developing concentration," "We should try to talk to him to see if he can understand, although he can't understand very well," and,

> I point things out to him, "This is a car. See the car is moving. It is going that way." I tell him there is a car moving. "This is a car moving." He will imitate. He will be very pleased. I will say, "Let's count how many cars are there." I will teach him, one car, two cars.

The same unit of thought could also continue across successive responses. For example, if the mother continued the same thought following a probe for more detail, the two responses would be combined into the same unit of thought.

For the current study, at least three (but more typically 5 or 6) members of the research team read the transcript independently, at least one of whom was from the same cultural background as the mothers. This was followed by team discussion and consensus on the mother's emphasis in each statement. The presence of a team member of the same cultural and linguistic background as the mother was critical to establishing the content validity of our categories across mothers (Chao, 1990; Laosa, 1991) and to expanding the team's understanding of cultural context. Each interview then was summarized under each cate-

Table 3.
Frequency and Percentages of Developmental Benefits and Maternal Roles

Variable	*f*	%	*n*
Developmental Benefits			
Cognitive	262	36	16
Emotional	195	26	16
Physical	195	26	16
Social	53	7	15
Adaptive Life Skills	34	5	11
Academic	0	0	0
Total	739		
Maternal Roles			
Facilitator	388	51	16
Caregiver	191	25	16
Director	101	13	16
Entertainer	72	10	14
Partner	4	.5	3
Model	3	.4	3
Available Presence	2	.3	2
Total	761		

gory to check for consistency within categories across mothers. The members of the research team also read these summaries independently and then discussed them as a team. Frequency tables were then constructed separately for each mother and subsequently for the group, representing responses related to each of the themes of benefits and roles. Units of thought containing both a benefit and a role were also summarized into individual and then group frequency displays to analyze associations between benefits and roles.

RESULTS

Developmental Benefits

A total of 739 units of thought containing developmental benefits or outcomes were derived from the interviews. Frequencies and percentages for each category are shown in Table 3, along with the number of mothers contributing to each category. Among these statements, four types of developmental benefits were mentioned by at least 15 of the 16 mothers: cognitive, physical, emotional, and social, with cognitive outcomes comprising the largest percentage (36%). The numbers of benefits and outcomes categorized as emotional or physical were identical (26%), followed by social benefits (7%). Eleven mothers emphasized benefits related to adaptive living skills (5%) of the total statements). None of these mothers mentioned academic readiness skills as a benefit of parent-child interaction.

Parental Roles

As shown in Table 3, of the 761 units of thought describing mothers' roles, 388 emphasized an indirect role in fostering the child's learning and development; that of the facilitator (51% of the total). For example, the mothers in this study emphasized the importance of providing varied opportunities (a facilitator role) for their children to practice motor skills. As one mother said,

> We do the rehabilitation stage by stage. Now, he needs physical therapy to enable him to walk. Now, the therapy stresses walking and playing on the slide. After we come back from a therapy session, we would. . .like sometimes at night, his dad would take him walking like using boo-boo car. And sometimes, if he does not have rehabilitation therapy that day, I will take him. . . . I will make him walk . . . make him walk around the house.

The caregiver role was the second most common role during parent-child interactions (25% of the total statements), followed by a direct teaching role (13%). Finally, 14 mothers contributed 72 statements (10% of the total statements) related to entertaining their children. Four or fewer mothers described roles in each of the categories of being a partner, a model, or an available presence.

Developmental Benefits and Associated Roles

To gain an understanding of the mothers' perceptions of the association between developmental benefits and maternal roles, matrices of parental roles by developmental benefits were developed, including only those thought units that contained both a valued benefit and an associated role (n = 528). Simple and conditional probabilities were calculated for the occurrence of each combination. Simple probabilities were calculated using the total number of combinations, and represent the occurrence of a particular combination within the total matrix. Conditional probabilities were calculated using the total number of combinations included within the particular outcome, and represent the proportion of times each role was mentioned in combination with the particular type of developmental outcome being described, out of all possible combinations for that outcome. Finally, combinations that at least half of the mothers (8 or more) contributed to were examined for whether associations between role and benefit occurred at a level greater than would be expected from their overall occurrence within the sample, using a binomial test (Bakeman & Gottman, 1986; Kanji, 1995). This provided a measure of whether particular roles were more likely to co-occur with particular benefits and outcomes than in combination with other benefits and outcomes. The overall occurrence of roles within these combinations was used as the base rate to answer the question of whether a particular role was likely to be associated with a particular valued outcome than with other outcomes, given the overall distribution of roles in the matrix.

As shown in the simple probabilities in Table 4, the most common pairs within the total set of data included the combination of cognitive benefits with the facilitator role (22% of the total, with comments contributed by all 16 mothers), emotional benefits with the caregiver role (11% of the total, with contributions by 14 of the 16 mothers), and physical benefits with the facilitator or caregiver role (16% and 10% respectively, with contributions by 15 and 13 mothers). Thus, within the interviews, the most common responses related to these four combinations.

The conditional probabilities shown in Table 4 indicate that when mothers talked about cognitive or physical benefits, they were most likely to be talking about a facilitator role (probabilities of .67 and .55, respectively), whereas when they talked about an emotional or adaptive living benefit or outcome, they were most likely to be talking about a caregiver role (probabilities of .38 and .44, respectively). Social benefits were most likely to be talked about in connection with a director role (probability of .44).

To determine whether any particular role was more likely to be associated with a particular benefit than would be expected from its overall distribution across the data set, a binomial test was calculated for each combination to which at least half ($n = 8$) of the mothers had contributed. This provided a test of the level of association between specific roles and the benefits with which they were associated, based on the total occurrence of each role across all combinations. Statistically significant associations were found between cognitive benefits and both the facilitator and director roles, between emotional benefits and the entertainer and caregiver roles, between physical benefits and the caregiver role, and between social benefits and the direct teaching role. Statistically significant negative associations were also found between emotional outcomes and a facilitator role, and between physical outcomes and a director role, indicating that these roles were less likely to be associated with these benefits than would be expected from their overall occurrence in the data set. Thus, mothers clearly viewed particular roles as being related to particular types of benefits and outcomes for their children.

DISCUSSION

The importance of parent-child interaction in mediating the development of competence in children has been widely documented in the literature. Cross-cultural studies of parental beliefs have shown that parents' interpretations of their children's behavior might be influenced by their beliefs about the nature of early development (Harwood et al., 1995). Furthermore, parental beliefs are also related to their child having a disability (Skinner, Bailey, Correa, & Rodriguez, 1999). These beliefs then guide how they respond to their children's development (Rodrigo & Triana, 1996). Nevertheless, studies of parents' beliefs about the developmental benefits of parent-child interaction, and about what parents perceive to be their own roles in supporting these benefits are lacking. Despite the impor-

Table 4.

Probabilities for Associations between Developmental Benefits and Roles

Benefits	Roles	f	n	Simple Probability	Conditional Probability	z score
Cognitive	Entertainer	5	4	.010	.030	—
	Facilitator	117	16	.222	.670	5.45*
	Caregiver	7	4	.013	.040	—
	Director	46	15	.087	.260	4.25*
	Partner	0	0	0	0	—
	Model	1	1	.002	.010	—
Subtotal		176				
Emotional	Entertainer	41	12	.078	.270	7.86*
	Facilitator	44	14	.083	.290	−4.22*
	Caregiver	57	14	.108	.380	4.42*
	Director	3	2	.060	.020	—
	Partner	2	2	.004	.010	—
	Model	1	1	.002	.010	—
	Presence	2	2	.004	.010	—
Subtotal		150				
Physical	Entertainer	0	0	0	0	—
	Facilitator	83	15	.157	.550	−1.43
	Caregiver	53	13	.100	.350	3.49*
	Director	14	9	.027	.090	−1.97*
	Partner	0	0	0	0	—
	Model	0	0	0	0	—
	Presence	0	0	0	0	—
Subtotal		150				
Social	Entertainer	3	3	.006	.090	—
	Facilitator	12	8	.023	.350	−1.48
	Caregiver	2	2	.004	.060	—
	Director	15	8	.028	.440	5.74*
	Partner	2	2	.004	.060	—
	Model	0	0	0	0	—
	Presence	0	0	0	0	—
Subtotal		34				
Adaptive	Entertainer	0	0	0	0	—
	Facilitator	7	5	.013	.390	—
	Caregiver	8	5	.015	.440	—
	Director	3	2	.006	.170	—
	Partner	0	0	0	0	—
	Model	0	0	0	0	—
	Presence	0	0	0	0	—
Subtotal		18				
Academic	Entertainer	0	0	0	0	—
	Facilitator	0	0	0	0	—
	Caregiver	0	0	0	0	—
	Director	0	0	0	0	—
	Partner	0	0	0	0	—
	Model	0	0	0	0	—
	Presence	0	0	0	0	—
Subtotal		0				
TOTAL		528				

Note. z-scores were computed only for cells to which at least half of the mothers contributed.
*z = or >1.96, p = .05; z = or >2.58, p = .02; z = or >3.3, p = .001; z = or >3.8, p = .0001

tance of this information for designing early intervention, particularly early intervention that targets or is based in parent-child interaction, to our knowledge no previous studies have explored the beliefs of parents whose babies have disabilities with respect to these variables. Such studies might be especially important when parents involved in early intervention are from non-Western cultures. Although cultural and ethnic diversity among families involved in early intervention has been increasing, many models of early intervention, although often applied across cultures, are based on developmental and applied literature conducted primarily with Western, Caucasian samples (Greenfield & Suzuki, 1998). Considerations of cultural validity are important not only within one country with a diverse population, but also when models are transferred from one country to another.

An informal comparison of the results of this study to data from the 13 mothers from Taiwan whose children did not have disabilities is instructive in what it reveals about potentially important within-culture similarities and differences. The percentage of statements related to emotional outcomes was virtually identical in both groups. In addition, both groups of mothers emphasized cognitive development as the most important benefit from parent-child interaction. Nevertheless, the two groups of mothers placed a differing extent of emphasis on different domains. For example, whereas mothers of the typically developing children emphasized social and academic readiness outcomes proportionately more, mothers in the current study placed relatively more emphasis on cognitive and physical benefits and outcomes, as well as on adaptive skills. These differences are consistent with what might be expected based on the cognitive and physical characteristics of children with Down syndrome, as well as on parents' concerns about their children's future ability to take care of themselves.

The lack of mothers' emphasis on some domains was unexpected. For instance, no mother of a child with Down syndrome mentioned the benefits of parent-child interactions for children's academic readiness. Given the emphasis on education in Asian cultures and the role of the mother in the educational process (Chan, 1998), this suggests that these mothers might have different views of the value of parent-child interaction as a function of their child's disability. For example, one mother stated,

> To tell the truth, I don't have much expectation. I'm like this not because I'm pessimistic. I think that because children like this are mentally retarded, their IQs are lower than normally developing children. You can't expect too much from them. You can't even send them to the regular school. I've heard that some children like this go to the regular school, but it's not good for them. It gives them a lot of pressure. They will get discriminated against.

Although this study did not address why mothers placed relatively more or less value on particular outcomes, the lesser emphasis on academic goals might reflect these mothers' perceptions of the limitations Down syndrome imposes or the knowledge of school services available for children with disabilities in Taiwan. In contrast, lesser emphasis on social goals might reflect shame or a perception of society's reactions to a child with a disability (Chan, 1998). For example, mothers in this study, as compared to those in our previous study, more often expressed hesitation about how others might respond to their child.

Similarities and differences also appear between this and our previous sample in their emphasis on particular roles. In both groups, the roles of director, facilitator, and caregiver were predominant. Again, however, the relative proportion of statements across different role categories differed in the two groups: Mothers in the current study had a larger percentage of statements categorized as facilitator or caregiver, whereas mothers in the previous study had more statements categorized as director and having an available presence. Unexpectedly, the mothers of children with Down syndrome did not emphasize a director role. This finding is not consistent with previous, observational research in which mothers of children with Down syndrome have been reported to be more directive and controlling than mothers of normally developing children (Marfo, 1990; Wang, 1992). One possible explanation is that since most previous studies were conducted by observing parent-child interactions, definitions of maternal behavior might differ from categories derived from mothers' descriptions, as in the present study.

Consistent with a previous study of parent-child interaction with young children with disabilities (Stoneman, Brody, & Abbott, 1983), mothers in the current study were even more unlikely to assume a partner role than those in our previous sample. Less emphasis on this role in comparison to other roles might reflect mothers' perceptions of children's reduced social responsiveness. As one mother stated, "He doesn't understand anything, you cannot really play with him. You can only talk to him and hold him to entertain him." The lesser emphasis on a partner role might also reflect children's health conditions. For example, one mother said,

> He plays with his toys by himself. When we are playing with toys together, he is very . . . he gets excited easily, which will cause him to start breathing shortly and quickly. It might be due to his heart disease or his asthma. He pants after playing with me for a while. I don't like this. My heart was broken because of this.

Thus, mothers may view their children as being more fragile, and best left alone to play.

Despite differences in emphasis, the patterns of contingent relationships found between benefits and roles were almost identical to those found for our sample of Taiwanese mothers whose children were typically developing. Thus, irrespective of whether their child had a disability, Taiwanese mothers of young children had similar ideas about their roles in supporting particular aspects of their children's development through parent-child interaction, making similar linkages between roles and outcomes (e.g., caregiving role and emotional outcome).

In general, overall patterns of results in this and our previous sample appear to reflect within-culture similarities between the two groups of mothers with respect to valued outcomes and with respect to parenting roles associated with those outcomes. In contrast, differing emphases on particular benefits and roles might relate to specific needs and concerns with respect to raising a child with Down syndrome. Future studies will be necessary to explore these possibilities. Comparisons using carefully matched samples would also make it possible to more clearly differentiate results due to disability and to other factors such as maternal education (Richman, Miller, & LeVine, 1992). Within-culture studies will also be necessary in other cultural groups, including those in the U.S. Finally, it is likely that perceptions will differ when babies have disabilities other than Down syndrome. Undoubtedly, perceptions of the particular disability within the culture will also influence how mothers perceive interactions with their babies; cross-disability studies are needed to address this question.

Given the breadth of our categories, within-category meanings should also be explored in future research to understand the meanings behind these differing emphases. For example, the physical benefits and outcomes these mothers of children with Down syndrome emphasized, included gross and fine motor skills such as sitting, crawling, walking, and grabbing, whereas those talked about most in our previous study were related to safety concerns. As one mother in the current study stated, "I also observe what kinds of things he is playing with. For example, which area of motor development he is good at. To see where his problems are." Further within-category analyses via the identification of sub-themes and categories may provide additional information on mothers' ideas about valued child outcomes parenting roles in relation to both culture and to ideas about disability.

The sample used in this study was a sample of convenience, limited to those mothers involved with four hospitals and with a parent organization during one time-limited period, and to the first 16 Taiwanese mothers contacted, all of whom were willing to participate in this study. Although there was good heterogeneity within the group on many demographic variables, it is not known whether mothers who chose not to have their names released to the researcher were similar to, or held beliefs similar to, the mothers included in this study. In addition, although there was an intent to balance children's gender, there were only 5 girls in the current study. Past work indicates that maternal expectations for children might differ as a function of the children's gender (Miller, 1988), especially in Taiwanese culture, where sons are highly valued. The inclusion of children with different birth orders might also potentially impact our findings. No trends were apparent from visual inspection of our data for any of these variables; however, larger samples might reveal these and other important variations. Finally, parents' perceptions might vary in relation to demographic variables other than those included in this study, such as religion or access to resources (Cho, Singer, & Brenner, 2000). All of these variables will be of interest in future research with larger samples.

These mothers' descriptions of their daily lives with their children were rich with detail. Nevertheless, based on the time available for this study, our data are based on one interview with each mother. Further, although most of the interviews were conducted in the home with the child present, so that the interviewer was able to observe interactions between parent and child, without more systematic observation it is not known whether mothers' descriptions reflected their actual, everyday interactions with their children. Future studies should be based on more extensive interactions with parents and children. Ideally, they would combine observation and interview methods, using the first to provide information about what occurs and the second to provide information about why it occurs.

This study appears to have important implications for designing interventions that are meaningful to families from different cultures. These Taiwanese mothers had very definite ideas about the outcomes and benefits they desired and expected from their interactions with their children, and associated particular styles of interaction with particular outcomes. Some of these ideas were compatible with typical approaches to interaction intervention, whereas others were not. For instance, the high proportion of statements combining a facilitator role with a cognitive outcome and a caregiver role with an emotional outcome are quite consistent with definitions of sensitivity and responsiveness found in the literature on parent-child interaction (Kelly & Barnard, 2000). In contrast, it cannot be assumed that an emphasis on being a play partner, which is a part of many parent-child intervention approaches, would necessarily be meaningful or acceptable to these mothers. These mothers' emphasis on motor development indicates that this might also be an important focus to address within the context of parent-child interaction, by providing strategies that mothers can use to foster physical development within the parameters of the limitations imposed by their children's health.

It is clearly incumbent upon professionals to examine intervention goals and processes from the perspective of parents, considering what is known about cross-cultural and within-cultural variation. They must be prepared to learn from each parent, and must also be aware of how their own assumptions about parent-child interaction and intervention might or might not be congruent with those of parents. Without consideration of the specific practice being recommended and the particular family involved, it cannot be assumed that any particular interaction intervention approach will be appropriate. As early intervention models and practices are employed with parents with differing beliefs about childhood and about intervention, models and specific practices within models should be carefully evaluated for the extent to which they are congruent with what each family views as important and meaningful in its everyday interactions with children.

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Position Announcement

Assistant Director of TTA to assist director of Center for Program Excellence, a non-profit resource center of Zero to Three. Assist in the dev. & implementation of Training & Technical Assist. (TTA) programs nationwide for child care providers, social workers, early intervention specialists & program leaders of early childhood programs, esp. for young children w/disabilities, mental health needs, & of diverse cultures. Assist in the dev. of program evaluations & infant mental health publications. Reqd. Ph. D. in early childhood special education & 2 yrs exp. in early childhood education/ counseling/social work, inc. exp. in dev. developmental & education programs for children 0-3yrs; exp. in dev. programs for children & families of diverse cultures; exp. in supervising & training direct services staff, & demonstrated ability to publish articles in the field. Send letter, resume, references & 2 writing samples to Zero To Three, HR Dept., 2000 M St. NW Ste 200, Washington, DC 20036, Attn: M. Steward. (no phone calls please).

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