Infant, toddler and preschooler inclusion in community activities

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ABSTRACT

The manner in which infant, toddler, and preschooler inclusion in community activities was associated with caregivers' judgments of their children's as well as their own behavior was the focus of analysis. The participants were 1454 parents of preschool-aged children with and without disabilities or developmental delays who completed a survey of child inclusion in 32 different community activities and measures of both child and parent behavior and functioning. Results showed that inclusion in community activities was related to both child and parent outcomes even after the effects of child and parent background characteristics were partialled from the analyses. Exploratory structural equation modeling found that community inclusion was directly related to the child outcomes but indirectly related to the parent outcomes mediated by child behavior and functioning. Implications for practices are described.

KEY WORDS

Early childhood intervention, community inclusion.

(Pp. 21-34)

Inclusion has been defined as "the existence of planned participation between children with and without disabilities in the context of children's educational/developmental programs" (c.f., Guralnick, 2001). The concept of inclusion has evolved from the early roots in the 1970's (c.f., Guralnick, 1978) into a current philosophy that that stresses the inherent benefits to society when all citizens have equal access to all aspects of life. In order for this to occur, inclusion must begin at an early age across all settings in which young children participate (Bruder, 2010). Authentic inclusion for young children has a number of goals that include social integration and access and participation to typically developing children in typical activities, as well as the enhancement of developmental and social outcomes for children (Guralnick, 2001). This last goal is of most importance as early childhood intervention is under scrutiny to demonstrate positive child and family outcomes as a result of participation in formal programs funded by the US government (Bailey et al., 2006; Hebbeler, Barton, & Mallik, 2008).

In the US, there is a growing body of research to support various aspects of early childhood inclusion, and it has been cited as a quality indicator of early childhood intervention services for children age birth to five (Buysse & Hollingsworth, 2009; DEC/NAEYC, 2009; Guralnick, 2011). Inclusive practices have been historically associated with school based programs because of the education laws that govern special education and the requirement for education in the least restrictive environment (children age 3-21) or natural environment (children 0-3). In 1975, The Education for All Handicapped Children Act (EHA) was enacted which mandated a free and appropriate public (special) education for children with disabilities ages 5-21, regardless of the nature or severity of the disability. This legislation was the culmination of many years of court decisions and legislation focused on expanding access to education for children with disabilities. This law defined special education as "specially designed instruction, delivered at no cost to the parent, to address the unique needs of the child" (34 U.S.C. ¤ 300.17, 1991) in accordance with an Individualized Educational Plan (IEP). This instruction could be conducted in the classroom, in the home, in hospitals and institutions, and in other settings (such as community programs). Additional related services were also available to eligible children, defined as: transportation and such developmental, corrective, and other supportive services as required to assist a child with a disability to benefit from special education; including speech pathology and audiology, psychological services, physical and occupational therapy, recreation, including therapeutic recreation, early identification and assessment of disabilities in children, counseling services, including rehabilitative counseling, school health, social work services in schools, parent counseling and training and medical services for diagnostic or evaluation purposes. Most importantly, these services were to be delivered in a child's least restrictive educational placement. By law, this is defined as follows:

> To the maximum extent appropriate, [children with disabilities]… are educated with children who are not [disabled], and that special classes, separate schooling, or other removal of [children with disabilities] from the regular educational environment occurs only when the nature or severity of the [disability] is such that education in regular classes with the use o supplementary aids and services cannot be achieved satisfactorily (§ 612[5][b])

In 1986, Congress amended EHA and added a number of significant components specific to children under age five. First, preschool age children (age 3-5) determined to be eligible for special education were extended all the rights and protections of Part B of EHA, including free appropriate public education (FAPE) in the least restrictive environment (LRE) (42 U.S.C. sec. 671(b) (3)). This program became known as Section 619 of Part B and it was to be administered by the state education agencies. Second, these amendments created incentives for states to develop an early intervention entitlement program for children age birth through two. The rationale for this downward extension of services was described in the preamble of this section of EHA. Congress identified an "urgent and sub-

stantial need" to enhance the development of infants and toddlers with disabilities, to minimize the likelihood of institutionalization for this population, the need of special education services at school age, and to enhance the capacity of families to meet the special needs of their infant and toddler with handicaps (Education of the Handicapped Act Amendments of 1986, 42 U.S.C. sec 671(a)).). This component of the law (Part H, now Part C of the Individuals with Disabilities Education Act [IDEA]) described a statewide system of interagency, multidisciplinary, services available to eligible children. A most important requirement of these services was that they were to be delivered in a child's natural environment: the home or in places in which other children participate; that is, those places that are natural or normal for children who do not have disabilities (sec 634(16)(A)). One reason for this emphasis was to insure that children with disabilities and their families would be included in community activities from the beginning, and that early intervention services would not be delivered in places that would isolate the child with disabilities or their family (from everyday life) (Federal Register, 54(11a), P 26313).

This focus on natural environments for infants and toddlers with disabilities has created an impetus for infants, toddlers and preschoolers with disabilities to access and participate in a variety of community based activities. These include types of activities such as informal (visits to the park, McDonalds, walks, etc.) and formal (story time at the library, child care, gymborees) experiences provided in community locations, programs and organizations. In an effort to document this move into community activities, the Increasing Children's Learning Opportunities Through Families and Communities Research Institute (Bruder, 2001; Bruder & Dunst, 2000; Dunst, 2001; Dunst, Bruder, Trivette, Raab, & McLean, 1998) identified and catalogued naturally occurring learning opportunities experienced in communities by children birth to six years of age with identified disabilities and delays, those at-risk for developmental delays, and those who are typically developing. The findings from the Research Institute indicated that young children with and without disabilities and delays participated in many different kinds of natural social and nonsocial learning environments day-in and day-out, on certain days of the week, at different times of the year, and as part of different kinds of family and community celebrations and traditions. These contexts have been identified as activity settings (Gallimore, Goldenberg, & Weisner, 1993). For this paper, the term activity setting will be used to characterize the contexts of development enhancing life experiences because it captures the rich array of diverse learning opportunities for people in general and young people, specifically (Dunst, Bruder, Trivette, Raab, & McLean, 1998).

Activity settings involve the active participation of a child in learning, and they serve to strengthen existing capabilities, as well as promote and enhance new competencies. Activity settings occur in a variety of different locations; within the home and the community, and in places in which typical children participate. Natural learning environments can then be described in terms of activity settings; as activity settings provide the context for everyday typically occurring learning opportunities. Learning that takes place in the context of family and community based activity settings promotes the acquisition of competencies that are culturally rooted, functional and results in increased child participation in those settings (Bruder, 2001; Dunst, 2001).

A most important outcome associated with community based activity settings is the extent to which participation in the locations, and settings within the locations, results in enhanced learning opportunities for a child. Since a major focus of early childhood intervention is the improvement of child and family functioning (Bailey, Hebbeler, Olmstead, Raspa, & Bruder, 2008; Bruder, 2010; Dunst, 2007) the purpose of this study is to examine children's inclusion and participation in community activities, and to see if such inclusion has positive effects on both children and parents. Additional analyses will also examine the child and family variables that relate to the amount and variety of community activities in which a child participates.

Method

Participants

The participants were 1454 parents and other primary caregivers of infants, toddlers, and preschoolers with and without disabilities or developmental delays birth to six years of age. Table 1 shows selected characteristics of the parents, their children, and the types of early childhood programs that served the children.

Table 1

Background Characteristics of the Study Participants

Respondent *Age* (Years)	Number	Percent	Child *Age* (Months)	Number	Percent
<20	38	3	0-12	92	6
20-30	647	45	12-24	201	11
30-40	609	42	24-36	337	23
40+	143	10	36-48	188	13
			48-60	399	27
Education (Years Completed)			60-72	232	16
<6	8	1			
6-11	198	11	*Child Diagnosis*		
12	596	41	Identified Conditions	274	19
13-15	390	27	Developmental Delays	534	37
16+	247	17	Al-Risk	646	44
Socioeconomic Level			*Program Type*		
Low	192	14	Early Intervention	445	35
Low-Middle	456	36	Preschool Special Education	136	11
Middle	424	31	Early Head Start	39	3
Middle-High	264	20	Head Start	400	32
High	116	9	Combination	234	17

The participants included the children's mothers (84%) and other primary caregivers (fathers, grandparents, relatives, etc.) who ranged in age from less than 20 years to more than 40 years. The majority (87%) of the participants were between 20 and 40 years of age. The participants completed less than 6 years of formal education to more than 16 years of formal education. Most (85%) completed a high school degree while 44% completed some college or had bachelors degrees. The participants' socioeconomic status (SES) was normally distributed with the majority (67%) of the families' SES ranging from low-middle to middle-upper class backgrounds.

The children ranged in age from 4 to 72 months. The children were almost evenly divided according to those less than (44%) or more than (56%) 36 months of age. One fifth of the children had identified disabilities (e.g., Down syndrome, cerebral palsy,

sensory impairments), one third had either general developmental delays or domain-specific developmental delays (e.g., speech and language), and just over two fifths of the children were at-risk for developmental delays mostly for socioenvironmental reasons (e.g., poverty). All of the children were involved in a birth to age three early childhood program (early intervention or Early Head Start), 3 to 5 year old preschool program (preschool special education or Head Start) or some combination of programs. The largest majority of the children with identified conditions and developmental delays were enrolled in the U.S. Department of Education Individuals with Disabilities Act (IDEA) Part C early intervention program or the IDEA Part B (619) preschool special education program ("Individuals with Disabilities Education Improvement Act of 2004, 20 U.S.C. §1400 et seq." 2004).

Survey

The participants completed a survey that included 50 community activities where participants indicated, on a 5-point scale ranging from *not-at-all* to *always*, how much their child participated in and benefited from involvement in the activities. A subset of the items (N = 32), which were the focus of analysis in this paper, were ones that involved inclusion in activities with other children or adults. These activities are shown in Table 2. The items that are included in each category are based on principal components factor analysis results which were subsequently validated by confirmatory factor analysis (Dunst, Hamby, Trivette, Raab, & Bruder, 2000). The sum of the ratings for the items in each category of community activities were used as the measures of child inclusion inasmuch as factor analyses of each set of items produced single factor solutions (Carmines & Zeller, 1979).

Table 2

Types of Community Activities That Constituted Sources of Inclusion Experiences

Category / Activities	Category / Activitites
Play Activities	*Recreation activities*
Outdoor playgrounds	**Fishing**
Indoor playgrounds	**Community centers**
Child play group	**Swimming**
Parent / child classes	**Sledding**
Festive activities	*Children's Attraction*
Community celebrations	**Petting zoos**
Children's festivals	**Nature reserves**
Community fairs	**Animal reserves**
Parades	**Pet stores**
Outdoor activities	*Art/Entertainment activities*
Hiking	**Children's museums**
Nature trail walks	**Children's Theatre**
Boating	**Library visits**
Camping	**Storytellers**
Community gardens	**Music activities / concerts**

In addition to the community activity items, the survey included different sets of items that measured both child and parent outcomes. These included *child behavioral style* (e.g., positive affect, enjoys interacting with other people), *child progress* (making less or more progress then expected in five developmental areas), *parental effort* (worth the time engaging his/her child in everyday activities), and *parental efficacy beliefs* (in terms of producing child benefits as a result of participation in everyday activities). Each outcome category included 5 or 6 items rated on different 5-point scales. The sum of the ratings for each outcome measure were the dependent variables in the analyses described next.

Methods of Analysis

Hierarchical multiple regression analysis by sets (Cohen, Cohen, West, & Aiken, 2003) was used to evaluate the relationship between child characteristics (age, diagnosis, program type), parent characteristics (age, education, family socioeconomic status), the six different measures of community inclusion (Table 2), and the four outcome measures (child behavioral style, child progress, parent effort, and parent efficacy beliefs). Child age was measured in months, child diagnosis was measured by orthogonal contrasts (Cohen, Cohen, West, & Aiken, 2003) placing the children on a continuum from multiply disabled to at-risk, and program type was measured in terms of participation in a program for children with disabilities or developmental delays vs. programs primarily for children who were at-risk for delays. Parent age was measured in years, parent education was measured in terms of the number of formal years of school completed, and socioeconomic status was measured by the Hollingshead (1975) scoring method. Community inclusion was measured in terms of participation in the play, festive, outdoor, recreation, children's attractions, and art/entertainment activities.

The order of entry into the regression analyses was child characteristics, parent characteristics, and inclusion in community activities. A number of statistics were used for substantive interpretation: the zero-order set correlations with the outcome measures, the multiple regression correlation coefficients at each step in the analyses, and the increments in the multiple correlations after the effects of the variables entered in the proceeding steps were partialled from the total amount of variance explained in the outcomes. In those cases where a variable set was significantly related to an outcome, the standardized regression coefficients of the variables in the set were examined to determine which variables accounted for the relationships between the predictor and outcome measures.

The extent to which the influences of child inclusion in the community activities had an indirect effect on the parent outcomes mediated by the child outcomes was assessed by exploratory structural equation modeling (Kline, 2005). The main focus of analysis was the extent to which inclusion in community activities positively influenced child behavior which in turn influenced parent belief appraisals (Hopwood, 2007).

Results

Correlational Findings

Table 3 shows the correlations among all the predictor and outcome measures. The correlation coefficients are best interpreted as effect sizes (Rosenthal, Rosnow, & Rubin, 2000) since the large sample size in the study results in $r = .06$ being significant at the 0.05 level. For purposes of substantive interpretation, an effect size (correlation coefficient) between 0.10 and 0.29 is considered small, an effect size between 0.30 and 0.49 is considered medium, and an effect size equal to or greater than 0.50 is considered large (Cohen, 1988).

The largest majority of effect sizes were positive and small to medium. The direction of effects were generally as expected. Older children, those without disabilities or delays, and those enrolled in early intervention or preschool programs serving primar-

Table 3
Correlations Among the Child, Parent, Community Activities and the Child and Parent Outcome Measures

	Child			Parent			Community Activities						Outcomes			
Variables	**CA**	**CD**	**PT**	**PA**	**PE**	**SES**	**PL**	**CM**	**OD**	**RC**	**CA**	**AE**	**BH**	**CP**	**PE**	**EB**
Child age (CA)	-	*.51*	*.49*	.11	.07	.11	.23	*.33*	.26	*.32*	.20	.22	05	.24	-14	-09
Child Diagnosis (CD)			.51	.08	.14	.14	.13	.22	.16	.19	.09	.12	.12	*.37*	.03	.03
Program Type (PT)			-	-10	-22	-29	.23	.25	.20	.21	.09	.13	.10	*.39*	-03	.03
Parent Age (PA)				-	.29	*.30*	.01	.04	.09	.09	.10	.15	-02	-11	-07	.03
Parent Education (PE)						.67	.01	.01	.02	.09	.15	.22	.03	.14	.01	.03
SES (SES)						-	-04	.03	.08	.10	.17	.21	.03	-14	-04	00
Play Activities (PA)							-	.55	*.41*	*.44*	.55	.54	.21	*.28*	.13	.09
Festive Activities (FA)								-	.55	.67	.69	.61	.21	*.30*	.09	.09
Outdoor Activities (OD)									-	.62	.52	.50	.14	.25	.07	.13
Recreation Activities (RC)										-	.54	.54	.16	.23	.04	.08
Children's Attractions (CA)											-	.67	.18	.20	.10	.13
Art/Entertainment (AE)												-	.18	.26	.12	.13
Behavioral Style (BH)													-	*.43*	.26	.29
Child Progress (CP)														-	.26	*.32*
Parent Effect (PE)															-	.27
Efficacy Beliefs (EB)																-

NOTE: r_2 -10 to 29 are underlined (small effect sizes), r_2 -30 to 49 are italicized (medium effect sizes) and r_2 -50 or greater are in bold (large effect sizes).

ily children without disabilities or delays tended to participate in more community activities. Those same three child variables were also related to participants' indicating that their children made more developmental progress than expected.

The parent measures (age, education, SES) were mostly unrelated to child participation in community activities (except children's attractions and arts and entertainment activities) and were either not related or negatively related to the child progress outcome measures. Older and more educated participants and those with higher SES backgrounds indicated that their children made less progress than expected.

The relationships among the six community inclusion measures were all medium to large. Child inclusion in the community activities were positively related to both child outcomes but only a few community inclusion measures were related to the parent outcomes. Both child outcomes were related to one another and to the two parent outcome measures. The latter results indicated participants' judgments of their children's behavior influenced those judgments of their own behavior.

Multiple Regression Results

Child Outcomes. The results from the multiple regression analysis by sets for the two child outcomes are shown in Table 4. Child characteristics accounted for significant amounts of variance in both outcomes whereas parent characteristics did not account for any variability in the two outcomes after the effects of the child characteristics were partialled from the analyses. Inclusion in the community activities accounted for significant amounts of variance in both child outcome measures even after the effects of both the child and parent characteristics were partialled from the analyses.

Child behavioral style was positively related to child diagnosis ($B = 0.08$, $p < .01$) and inclusion in both play ($B = 0.11$, $p < .008$) and festive ($B = 0.09$, $p < .03$) activities. Children without disabilities or delays tended to be rated as having a more positive behavioral style. A greater amount of participation in both play and festive community activities was also related to a more positive child behavioral style.

Table 4

Multiple Regression Analysis Results for the Two Child Outcome Measures

	Child Behavioral Style			Child Progress		
Predictor Sets	Set R	R^2	ΔR^2	Set R	R^2	ΔR^2
Child characteristics	.13**	.02*	.02*	.44**	.19**	.19**
Parent characteristics	.05	.02*	.00	.16**	.20**	.01
Community activities	.24**	.07*	.05**	.35**	.26**	.06**

* $p < .002$. ** $p < .0001$.

Both child diagnosis ($B = 0.20$, $p < .0001$) and program type ($B = 0.19$, $p < .0001$) were related to the participants' judgments of child progress. Children without disabilities or delays were judged as making more progress compared to children with disabilities or delays. Inclusion in arts/entertainment ($B = 0.14$, $p < .0001$), play ($B = 0.09$, $p < .002$, outdoor ($B = 0.07$, $p < .03$), and festive ($B = 0.07$, $p < .03$) activities were all related to participants' judgments of children's progress. The more the children participated in the community activities, the more the parents indicated their children made more developmental progress.

Parent Outcomes. Table 5 shows the multiple regression analyses by sets for the two parent outcome measures. Both child characteristics and the community activity measures were related to the respondents' judgments of the effort it took to engage their children in community activities and their self-efficacy beliefs in terms of producing positive child benefits. In both analyses, the older the child, the more effort ($B = -0.19$, $p < .001$) and the more attenuated were the parents' self-efficacy beliefs ($B = -0.18$, $p < .001$).

Table 5

Multiple Regression Analysis Results for the Two Parent Outcome Measures

	Parent Effort			Parent Efficacy Beliefs		
Predictor Sets	Set R	R^2	ΔR^2	Set R	R^2	ΔR^2
Child characteristics	.14**	.02	.02*	.13**	.02*	.02*
Parent characteristics	.00	.00	.00	.07	.03*	.01
Community activities	.15**	.06	.04**	.16**	.06**	.03**

* $p < .01$. ** $p < .001$.

Child inclusion in community activities was positively related to both parent outcomes. The more the children participated in arts/entertainment ($B = 0.11$, $p < .005$) and play ($B = 0.08$, $p < .01$) activities, the more the respondents' indicated that it was worth the effort to engage their children in community activities. The more the children participated in outdoor activities ($B = 0.11$, $p < .002$), the more positive were the respondents' self-efficacy beliefs.

Structural Equation Modeling

The patterns of findings from both the correlational and multiple regression analyses informed the development of an exploratory structural model where child diagnosis and inclusion in community activities were hypothesized to be directly related to the child outcomes and indirectly related to the parent outcomes mediated by child behavior and functioning. The influences of the different sets of measures were assessed as either measured or latent variables based on the patterns of relationships among the measures included in the model (Tables 3, 4, 5). For purposes of the analysis, arts/entertainment, festive, and the children's attraction activities were combined and labeled leisure activities, and the outdoor activities were combined with the recreation activities. The main focus of analysis was the extent to which parent-mediated child inclusion in community activities influenced participants' judgments of their children's behavior which in turn influenced respondents' belief appraisals about their efforts and successes in providing their children positive inclusion opportunities.

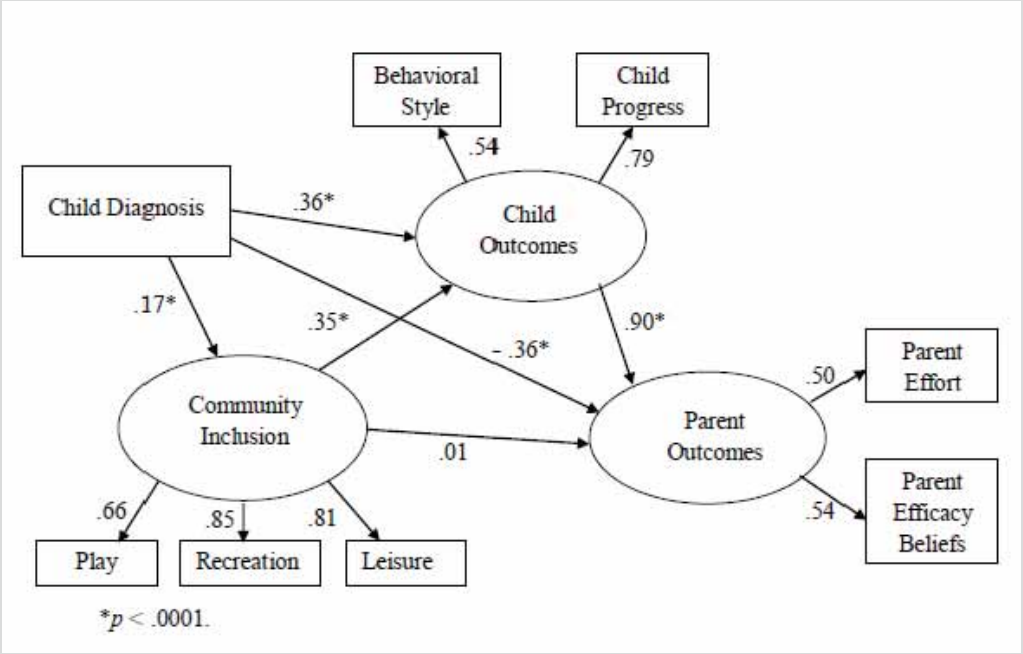

Figure 1. Structural equation modeling results for the relationships between the predictor and outcome measures.

Figure 1 shows the results from the exploratory structural equation model analysis. We first assessed the fit of the model to the patterns of relationships among the measures (Table 3). This was determined by fit indices which can range from .00 to 1.00 where a fit index of .90 or higher is considered a good fit. The fit indices ranged between .93 and .97, indicating a good fit of the model to the data. Second, we examined the path coefficients (parameter estimates) to determine if the variables connected by arrows were significantly related to one another (direct effects). All of the path coefficients except the one between community inclusion and the parent outcomes were significantly related. Third, we determined whether the influences of child diagnosis and community inclusion were indirectly related to the parent outcomes mediated by the child outcomes. Indirect effects are estimated by the products of two direct effects. The indirect effect of child diagnosis on the parent outcomes was 0.36 x 0.90 = 0.32, $p < .0001$. This indirect effect was, however, negated by the fact that child diagnosis was negatively related to the parent outcomes. This was determined by the sum of the direct and indirect effects (-.35 + .32 = -0.03, $p > .05$) of child diagnosis on the parent outcomes. The indirect effect of community inclusion on the parent outcomes was 0.35 x 0.90 = 0.32, $p < .0001$. This indicates that the influences of community inclusion on the parent outcomes was mediated by the parents' judgments of their children's behavior and functioning. The results also indicate that the negative effects of a disability or delay on child and parent behavior and functioning are offset by the positive effects of inclusion in community activities.

Discussion

The results from the different analyses showed that young children's inclusion in community activities was related to participants' positive judgments of their children's as well as their own behavior and functioning even after the effects of child characteristics (age, diagnosis, program type) and parent characteristics (age, education, SES) were partialled from the analyses. Results also showed that the effects of community inclusion on parent behavior and functioning were indirectly mediated by the participants' judgments of their children's behavior. This latter finding shows that parents' successful engagement of their children in community activities has positive child behavioral consequences and that the effects on the parents were manifested in terms of different belief appraisals of their own effort and capabilities (Goldberg, 1977; Leerkes & Crockenberg, 2002; Paczkowski & Baker, 2007). These types of direct and indirect effects are control features of parenting efficacy models and theories (Bandura, 1997; Coleman & Karraker, 1998; Guzell & Vernon-Feagans, 2004).

The data collected supports the premise that children's lives are composed of a variety of learning opportunities and that these are embedded within inclusive community activity settings as well as home and school. As described in the introduction, locations are sources of many different kinds of activity settings, and activity settings are the sources of many different kinds of situated learning opportunities. Consequently, natural and inclusive learning environments in the community are best described and understood in terms of the major categories of activity settings (table 2) and the specific kinds of learning opportunities within them. Conceptualizing natural and inclusive learning environments in this way facilitates and expanded application of early childhood intervention, especially when one identifies the particular kinds of activity settings having development-enhancing qualities and consequences for each individual child and their family (Bronfenbrenner, 1992).

The findings of this study have implications for those involved in early childhood intervention. Besides the obvious need for the involvement and education of families about the benefits of community inclusion

to them and their child, the need and rationale for an expanded definition of early childhood intervention must be embraced by all personnel providing services [P.L. 105-17, Section 632 (F) (G)]. A recent focus in the US is on child and family outcomes as a result of participation in early child intervention, and the evidence provided in this study suggests that intervention expanded into inclusive community activities can produce improved child development, and this in turn positively impacts parental beliefs about their own impact on their child's development. These parent outcomes, in turn, can result in an increase in their children's inclusion in their community, which in turn, establishes the visible presence and participation of more children with disabilities in society from the earliest time possible.

A better, more ecologically accurate definition of early childhood intervention is one that includes both naturally occurring and planned learning activities provided in the context of natural learning environments in the community (activity settings). A recent definition of early (childhood) intervention which addresses this framework has been proposed by Dunst (2007): Early childhood intervention is defined as the experiences and opportunities afforded infants and toddlers (and preschoolers) with disabilities by the children's parents and other primary caregivers (including service providers) that are intended to promote the children's acquisition and use of behavioral competencies to shape and influence their prosocial interactions with people and objects (p 162). In this expanded perspective of early childhood, the role of early intervention practitioners expand to include the use of learning opportunities afforded by others as well as those provided by practitioners themselves as a way of promoting child competence. This study illuminates the value of utilizing inclusive community activity settings for children's learning on both child and parent outcomes. This particular conceptualization makes intuitive sense and cannot but result in a richer array of learning opportunities influencing child development.

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INFANT, TODDLER AND PRESCHOOLER INCLUSION IN COMMUNITY ACTIVITIES.

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