Improving Integration Outcomes for Children With and Without Severe Disabilities Through Cooperatively Structured Recreation Activities: A Synthesis of Research

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Article:

The use of cooperative learning strategies within integrated recreational activities has proven to be a powerful combination in facilitating the inclusion of children with and without disabilities. This article offers a synthesis of research in this area, addressing five interrelated questions with experimental findings that should assist program leaders to plan, direct, and sustain successful inclusionary recreation programs.

The value of recreation in promoting the participation of persons with severe disabilities in less restrictive environments has been demonstrated repeatedly in many contexts (Schleien & Ray, 1988). Similarly, the importance of creating a cooperatively structured climate for promoting positive social interaction in integrated recreation settings has been shown numerous times (Rynders & Schleien, 1991). Through more than a decade of federally funded research efforts, an interdisciplinary team of researchers centered at the University of Minnesota (MN) has attempted to deepen its understanding of how to bring these two forces--recreation and cooperative structuring--together to benefit not only participants with disabilities but also participants without disabilities.

The purpose of this article is to offer a synthesis of this research, augmenting it with the findings of others as appropriate. In organizing the synthesis, we pose five interrelated questions, the answers to which should assist people responsible for recreational activities to plan, direct, and sustain a successful integrated effort:

How can recreation activities be structured to maximize their cooperative aspects?

What types of recreation activities are particularly conducive to promoting cooperative interactions?

What peer-participant characteristics should one look for in promoting cooperative recreational groupings?

Once recreation activities have been selected, how should participants with and without disabilities be prepared for successful cooperation in these activities?

What can be done to keep cooperation growing and prospering?

Question 1:
How Can Recreation Activities Be Structured to Maximize Their Cooperative Aspects?

In the early days of the integration movement, it was not uncommon for program leaders to believe that simply putting children with and without disabilities together in the same recreation center or on the same school playground would cause them to interact positively, perhaps even to become close friends. It soon became evident, however, that physical proximity did not in and of itself ensure positive results. In fact, in the 70s, evidence accumulated that without proper structuring by an adult (e.g., wording activity directions to promote enjoyable inter dependent interaction), nondisabled children might view their peers with disabilities in negative

ways (e.g., Novak, 1975), feel discomfort and uncertainty in interacting with them (e.g.,Jones, 1970), and, during unstructured interactions, show feelings of outright rejection of them (Goodman, Gottlieb, & Harrison, 1971; Iano, Ayers, Heller, McGettigan, & Walker, 1974). Thus, it became clear that the seeds of positive attitudes and behaviors in nondisabled children could not be assumed to sprout on their own, but had to be carefully planted and then actively cultivated. To the MN group, cooperative structuring techniques, activated through selected recreation activities, appeared to hold special promise.

During the past 15 years the MN research team has focused on the employment of cooperative learning strategies based on the work of R. Johnson and D. Johnson (1980,1984). Their approach, which they refer to as Cooperative Goal Structuring, features the structuring of a task for interdependent (cooperative) use rather than independent or competitive use, as shown in the following:

In a cooperative [italics added] learning situation, students' goal attainment is positively correlated and students coordinate their actions to achieve the goal. Students can achieve their learning goal if, and only if, the other students with whom they are cooperatively linked achieve their learning goal. In a competitive [italics added] learning situation, students' goal attainment is negatively correlated and one student can obtain his or her goal only if the other students with whom he or she is competitively linked fail to obtain their learning goal. In an individualistic [italics added] learning situation, the goal achievement of each student is unrelated to the goal attainment of others; there is no correlation among students' goal attainment, and students' success is contingent on their own performance irrespective of the quality of performance of others. (D. Johnson & R. Johnson, 1980, pp. 93-94)

Early in the 80s, we collaborated with the Johnsons in a study (Rynders, Johnson, Johnson, & Schmidt, 1980) that brought groups of junior high-age students together for 1-hour integrated recreational bowling sessions for 8 consecutive weeks. Specifically, we were interested in finding out how children with Down syndrome (see Note) would fare socially with same-age, nondisabled peers when recreational bowling groups were structured for cooperative, independent, or competitive participation.

Participants were assigned to one of the three conditions on a stratified random basis, creating within group gender balance, and a ratio of four children with Down syndrome to six nondisabled children in each condition. In the cooperative condition, participants were told that improvement in bowling score, as a group, was the desired outcome and they should provide help and support to each other however they could. If at the end of the bowling sessions the group score increased, each participant in the group would receive a prize. In the independent condition, bowlers were told that their objective was to improve their own scores across sessions, that they should concentrate on improving their bowling performance, and that there would be a prize for each person who did so. In the competitive condition, bowlers were told that they should work hard on improving their own bowling and that the one who bowled better than everyone else would win a prize. Bowlers in each condition were reminded periodically as to the nature of the goal structure they were under, but no prompts or reinforcers from adults were offered to any bowler in any group on a response contingent basis. Results showed that cooperatively structured bowling produced significantly more prosocial bids, both between and among peers with and without disabilities, than in either the independently or competitively structured groups. Furthermore, the difference favoring the cooperatively structured group was reflected in significant improvement in the nondisabled bowlers' perceptions of participants with Down syndrome as compared with the nondisabled bowlers' perceptions of bowlers with Down syndrome in the other two conditions.

Leaving the issue of whether a cooperative goal structure was more effective than an independent or competitive goal structure in inducing positive psychosocial outcomes in integrated recreation situations, we extended this line of work across a series of three studies to see if cooperative behavior could be further enhanced by encouraging social interactions in the context of creative arts and dramatic play activities. In the first of these studies, elementary age students with autism and nondisabled students, all of whom attended a regular suburban school, were brought together in an art education program called Kidspace, an interactive

studio and gallery program housed in the Minnesota Museum of Art in down town St. Paul (Schleien, Rynders, & Mustonen, 1988).

Art as an integration medium possesses several special qualities. Perhaps its greatest inclusionary virtue was noted by Dalke (1984), who suggested that in an art product there is usually no rigid pattern of right or wrong; every participant can experience some degree of success. Two integrated groups of children participated cooperatively in the Kidspace project, for which we employed a multiple baseline, single-subject research design.

In the Kidspace study, and the others done by the MN group that are reviewed in this article, the cooperative goal structure employed was a modified version of the Johnson and Johnson (J & J) approach and included the following components (except where noted in the review later):

Directions focused on an interdependent outcome (such as a pizza, with each individual in a group putting on one ingredient, with a pizza party to follow). But implementation deviated from a traditional J & J approach in that the pizza party (group reward) would not occur unless each person actually participated as prescribed (reward contingency).

The task was adapted to be as conducive to a cooperative (interdependent) outcome as possible. This is consistent with the J & J approach, except that the MN group has placed more attention on task adaptation because participants with disabilities have usually had more serious disabling conditions than the Johnsons generally encountered in theirs.

Nondisabled participants received portions of Voeltz et al.'s (1983) Special Friends curriculum. For example, they learned about the importance of turn taking, use of prosthetic devices, and so forth. They also received instruction (and sometimes simulated practice) in how to assist someone who needs it--as a friend would assist, not as a teacher would do it. Equally important, they learned to not be overly helpful. Generally, J & J have not provided this type of preparation to the extent and depth we have because, again, their participants have seldom had severe disabilities.

Adult facilitators reinforced cooperative peer interactions when they occurred but did not cue or prompt them. Adult facilitators also redirected participants who exhibited off-task behavior or appeared to be doing something that could become unsafe. This would be consistent with the J & J approach, though they have not emphasized the adult facilitator role as much as we have because, as already noted, their participants tend to have milder disabilities than ours do.

Participants with disabilities sometimes received individual adult instruction in a particular skill area, if such instruction was deemed crucial for enabling positive peer-to-peer participation. This was usually not necessary, because the cooperatively structured environmental context often provides the instruction to a large extent. The Johnsons also utilize adult teaching in their cooperative programming, but because most of their participants do not have severe disabilities, one-to-one direct instruction is not emphasized as much.

Following this training, cooperatively structured studio and gallery activities were introduced (e.g., members of small, integrated groups worked together on decorating and then assembling the pieces of a giant puzzle). During these activities, adults reinforced cooperative puzzle-making interactions between children of differing abilities, but did not cue or prompt such interactions, as the goal was to allow the children, rather than the adults, to "call the shots." Data were collected via a partial-interval time sampling procedure employing a behavior target checklist.

Whereas all participants had exhibited low levels of social interaction during the baseline phase, nondisabled participants significantly increased the number of social interactions initiated toward participants with disabilities during the intervention phase. This was replicated in the performance of the second group. However,

in both groups, social bids by nondisabled peers were seldom reciprocated by participants with autism (not a surprising finding, considering the nature of autism). Moreover, there was a slight decrease in the percentage of appropriate behavior in one group of children with autism. Although functional analyses (Carr & Durand, 1985; Iwata, Dorsey, Slifer, Bauman, & Richman, 1982; O'Neill et al., 1990) of the challenging behaviors exhibited by the students with autism were not conducted, it is plausible that decreased levels of appropriate behavior were motivated by the students' desire to escape from or avoid activities or demands (Durand & Carr, 1985).

The second and third studies in this series focused on improving socialization through cooperatively structured sociodramatic play activities. Strain (1975) found that assigning preschool children with severe mental retardation to sociodramatic activities, and then prompting appropriate role behaviors by an adult, increased the frequency of social play, a finding replicated by Strain and Wiegerink (1976) with preschoolers classified as having severe behavior disorders. This, sociodramatic play looked to be a promising medium, one in which children could begin to understand their differences and similarities by assuming roles and engaging in nonthreatening interactions that were allowed, and even encouraged, because the roles were in a "script."
In the first of two studies exploring the use of sociodramatic play, Miller, Rynders, and Schleien (in press) compared the interaction patterns of two integrated groups of fifth graders drawn from two regular fifth grade classrooms and two special education classrooms--one serving students with moderate to severe mental retardation and one serving students with severe to profound mental retardation. One group participated in cooperative sociodramatic activities; the second group participated in cooperative games. The cooperative sociodrama intervention consisted of improvisational acting exercises devised by Spolin, drawn directly from her book Improvisations for the Drama (Spolin, 1963). Bernstein (1979) and Warger (1985) had used these and similar activities successfully with school-age children with mental retardation. The cooperative games intervention comprised games from The Cooperative Sports and Games Book (Orlick, 1978), a compendium of indoor and outdoor games for school age children. Cooperative games have also been used successfully in physical activity programs seeking to promote the integration of children with autism (Schleien, Krotee, Mustonen, Kelterborn, & Schermer, 1987). Prior to beginning the project, two certified therapeutic recreation specialists (CTRS) evaluated the two sets of materials independently, assessing comparability in terms of perceived interest and level of difficulty. Both specialists rated the two curricula as comparable in these two dimensions, although one specialist questioned whether the drama games would be too challenging for the students with disabilities.

Both conditions were scripted carefully, were "coached" by the same staff in the same location on the same day of the week, and were as similar in format as possible. In both conditions, each session began with a 5 minute period of mild physical exercise followed by a brief (5 to 10 minute) period of instruction/discussion. Activities took place over a 25 to 30 minute period and the activity period terminated with a 5-minute discussion. An example of a cooperative game was to divide the groups into two relay teams. Each team received a large ball that needed to be carried cooperatively by two partners in the typical relay race fashion. An example of a ball handling activity to promote pretending was having individuals in a small group pass the ball to others in the group and imagine what would happen when the ball became "slimy," "hot," "extremely heavy," and so on. Each group, consisting of six nondisabled children and four peers with disabilities, participated together in activities for 12 consecutive weeks, following a baseline period in which there were no significant differences on the dependent variables. Social interaction data (i.e., initiating and/or being targeted for positive social interaction) were collected using a partial-interval time sampling procedure similar to the one used in the Kidspace project described previously.

Results showed that children with disabilities in the cooperative drama group were approached significantly more often by nondisabled children as compared with the number of approaches by nondisabled children in the cooperative games group. Similarly, children with disabilities in the drama group approached their nondisabled peers more often than did their counterparts with disabilities in the cooperative games group, but this difference was not statistically significant.

In a second investigation of the effects of sociodramatic play, Colond, Rynders, and Schleien (1992) used activities based on the Odom et al. (1988) play curriculum as a medium to promote cooperative social integration and pretend play among eight second-grade nondisabled students and eight age-matched peers with severe cognitive disabilities attending a regular school in Minneapolis. Children were assessed in both heterogeneous (half with disabilities, half without) and homogeneous (all with or without disabilities) groups, and participated in dramatic play activities for 12 weeks under intervention conditions of pretend play and cooperative training following a baseline period. As an example, during intervention the adult leader said, "Today we are going to pretend we are going to a birthday party. Who has been to a birthday party before?" (One child was chosen to be the birthday celebrant; the others were to be friends of the celebrant.) The adult leader then went on to (a) enumerate the following "actions" related to the activity: preparing the cake, setting the table, putting candles on the cake, singing "Happy Birthday," cutting the cake, giving presents, opening presents, and putting materials away; (b) point out the props, taking care that not too much information was given, so that children's creative urges would not be blunted (e.g., "See these pieces of cake" [playdough]; "Look at these candles" [toothpicks]; "Here are gifts" [small empty packing cartons]).

Results showed that the self-contained group of children with severe disabilities exhibited a low yield of peer-to-peer social interactions and few instances of pretend behaviors, particularly higher order pretend-type behaviors. However, when nondisabled peers joined this group of students with disabilities, replacing half of them, the overall rate of within-group social interactions and pretend behaviors increased as compared with these rates in the all-with-disabilities group. Interestingly, while this outcome may have occurred due to the enhanced situational "richness" available to the students with disabilities (from the words and actions of the students without disabilities), the social interactions emanating from nondisabled peers toward peers with disabilities were seldom reciprocated, a finding similar to that of the Kidspace project.

Also of interest was the fact that nondisabled children, when interacting in groups containing only other nondisabled children, exhibited higher rates of social interaction and higher order types of pretend play as compared with these types of interaction when they were integrated with children with severe disabilities. Of course, the integrated group included equal numbers of children with and without severe disabilities, and thus included a disproportionate (large) number of children with disabilities, if one looks to the proportion of children with disabilities in the general population. Hence, findings might have varied in important ways had the group included no more than one or two children with severe disabilities. (See the Peterson and Haralick, 1977, study in the next section for additional support for the idea of keeping the number of children with disabilities relatively small in an integrated grouping.)

Question 2:
What Types of Recreation Activities Are Particularly Conducive to Promoting Cooperative Interactions?
When adults set out to promote cooperative social interactions between children of diverse abilities, what they use as interaction-promoting games, toys, or activities will make a difference. For example, social toys (e.g., board games) rather than isolate toys (e.g., coloring books) will have a powerful influence on socialization outcomes among young children (Odom, Hoyson, Jamieson, & Strain, 1985; Quilitch & Risley, 1973). From a developmental perspective, the model of social play established by Parten (1932) has often provided a framework for judging the efficacy of integrated play intervention. Guralnick (1978), looking to that model, intervened in children's play in integrated settings (children were nondisabled or had a variety of severe disabilities). Intervention consisted of cuing and reinforcement of child socialization by an adult. Results showed that there were increases in parallel and associative play in a different environment, with a corresponding reduction in unoccupied, solitary, and adult-directed behavior.

Guralnick's (1978) findings sparked our MN group's interest in exploring the social play of children with autism (two of Guralnick's subjects had autism) in an integrated setting, looking particularly to exploring type of social play activity (isolate, team, etc.) as it influenced social interactions and, especially, behavioral appropriateness (children with autism are often described as exhibiting stereotypic and socially inappropriate behaviors [Scott &

Gilliam, 1987]). Frequently, the clinching characteristic in the diagnosis is that of exhibiting object manipulation of a nonfunctional nature (Schleien, Rynders, Mustonen, & Fox, 1990).

Schleien, Heyne, and Berken (1988) of the MN group conducted a study involving 12 children with autism (ages 4 through 12) who participated in an integrated physical education/leisure education program. The purpose of the study was to examine motor skills (type and level) exhibited across a variety of tasks. While their results did not indicate improvement in motor skills as a function of task type, they did find significant improvement in socially appropriate play in the more socially advanced (i.e., cooperative group and team play) activities. Schleien et al. suggested that exhibiting higher levels of play may go hand in hand with improved behavioral appropriateness in children with autism, implying that the hierarchical model of play intervention that is proposed by some professionals (i.e., emphasizing isolate play mastery as a prerequisite to dyadic play, and mastery of dyadic play as a prerequisite to group play, and so on, for children with autism) might be unnecessary, and even counterproductive in certain socialization circumstances.

Following up on the implications of their findings, Schleien et al. (1990) set up an experiment in which activities representing four different levels of social play were presented to children with and without autism in an integrated leisure education program. Employing a multielement design, nondisabled children received training in how to interact cooperatively and then participated with peers with autism in activities representing isolate (e.g., hula hoop), dyadic (e.g., indoor horseshoes), group (e.g., Twister), and team (e.g., rope tug-of-war) play activities. Results showed that the largest percentage of inappropriate behavior in children with autism occurred in isolate activities, with the highest level of appropriate play behaviors occurring in activities involving nondisabled peers on a coparticipation basis, such as dyadic, group, and team activities. (Social interactions were very infrequent in this study, regardless of type of activity.)

Modifying a recreation activity to increase opportunities for social interactions by children with severe disabilities and nondisabled peers appears promising, based on the findings of others that relate to our work. For instance, size of a play group can be an important component of integrative recreation activity. There are few contemporary studies on this, but Parten's (1932) classic study of the play of preschool children showed that the size of a play group could have a significant impact on the amount of social interaction. Younger children spent a majority of their play time in groups of two; play groups of five or more were usually observed with older children. This information could be valuable when selecting recreation activities for preschool students with developmental disabilities. For example, integrated dyads might function well in sandtable activities, because most sandtable activities in a preschool classroom are conventionally limited in the number of participants permitted to play at one time (Parten, 1932). Conversely, integrated recreation activities such as card games like Uno, spades, or hearts, requiring a group of people to participate concurrently, would better fit the socialization framework of older children.

Another factor that influences social interactions between young children at play is the ratio of participants with disabilities to those without disabilities in an integrated play situation. According to Peterson and Haralick (1977), the interactions of preschoolers vary depending on that ratio. An integrated group of preschool children containing a larger number of children without disabilities proved to be the most effective situation for fostering social interactions. Moreover, while children without disabilities chose to play more frequently with other children without disabilities, nondisabled children participated in nonisolated play with their peers with disabilities for more than 50% of the sessions observed.

Finally, providing children with the opportunity to make choices can help promote socialization by increasing prosocial behaviors. For example, Dattilo and Barnett (1985) examined the behavior of children with severe disabilities under two conditions: In the first, children were allowed to choose recreational activities, while in the second, the activity of Condition 1 was presented to the child. Under the choice condition, children displayed more positive affective behavior. Relatedly, Dyer (1989) found that children with autism initiated more spontaneous requests when interaction with recreational items and foods that they preferred than when exposed to nonpreferred recreational and food items.

Question 3:
What Peer-Participant Characteristics Should One Look For in Promoting Cooperative Recreational Groupings?

Age. One factor that influences socialization is chronological age. Levitt and Cohen (1976) and Peterson and Haralick (1977) found that younger nondisabled children are more accepting of peers with disabilities of the same age than older nondisabled children are of their same-age peers with disabilities.

Among nonhandicapped peers of similar ages, social bids tend to be more friendship-like and reciprocal (Whiting & Whiting, 1975). As age separates the partners, however, roles tend to become increasingly tutorial, though complementary: Without guidance, the older child is often more directive and nurturant, the younger more submissive and dependent (Brody, Stoneman, & MacKinnon, 1982; Graziano, French, Brownell, & Hartup, 1976). Cole, Vandercook, and Rynders (1987) found that large age differences between partners with and without disabilities were associated with fewer reciprocal interactions and lowered rates of play in comparison to similar-age peer interactions. Furthermore, the teachers described cross-age relations as more hierarchical and less symmetrical than same-age relations. Parenthetically, nondisabled students rated same-age interactions as more fun and engaging. In fact, when the child with disabilities was older, nom disabled younger partners appeared to inhibit certain playful behaviors. When the nondisabled child was much younger than his or her partner with a disability, relationships appeared to be especially awkward. In such cases, teachers reported that the younger nonhandicapped children seemed intimidated by the physical size of their older partners with disabilities (or confused by the disparity between size and ability). One possible explanation of the findings is that nondisabled peers may attempt to pattern their interactions after familiar older/younger sibling play relationships. However, nondisabled children who are younger than their partners with disabilities may not find expectations about older nondisabled siblings to be useful models for interactions. A finding that surprised us was that equity or reciprocity did not peak when partners' age difference was zero. In fact, interaction equity occurred in relationships in which nondisabled children were a few months to 2 years older than their partners. Indeed, self-reported perception of fun was greatest in this range. Thus, it appears that the emotional, intellectual, and physical challenges of interacting with a child with severe disabilities are best negotiated by a nondisabled child who has a moderate age advantage.

A final point about age concerns the degree to which relationships between children with and without disabilities (same-age or cross-age) may be regarded as truly egalitarian. Although various play and affective behaviors may be reciprocal in some relationships in certain contexts, the rates of other behaviors may be highly disparate in other contexts. On Hartup's (1984) continuum from egalitarian best friends) to complementary (parent-child or teacher-student) relationships, dyads in the Cole, Vandercook, and Rynders (1987) study manifest some characteristics from both ends of the continuum.

Accommodations by Peers. Regarding nondisabled peers' accommodations for excess behaviors and other interaction challenges in their partners with disabilities, we contend that nondisabled peers need information regarding when and how they should assist and when and how they should not. Moreover, nondisabled peers need reassurance that their friends with disabilities can benefit from the real world of natural cues, corrections, and even consequences. In the real world, when children play games with one another, one child does not get to take all of the turns. If a student has a particular behavioral problem, the nondisabled peer needs some information about the probable reason for that behavior. More important, nondisabled peers need strategies that are helpful to them in not letting excess behaviors interfere inordinately with interactions. This information should always be highly individualized, but might include information such as, "Remember to give Sue a choice of activities if you can. She'll say `no' less often if she is involved in deciding what the two of you will do," and, "Be friendly but firm about your turn even if she doesn't offer it to you."

A method that appears to be quite helpful in situations involving individuals who exhibit behavioral challenges is to reduce interaction demands in the situation itself. In one of our studies (Rynders, Schleien, & Mustonen, 1990) we were faced with a situation that forced us to be inventive in terms of maintaining cooperative interactions. We had created small, integrated groupings (one child with a severe disability placed with three to

four nondisabled children). Children were approximately the same age (all upper-elementary) and had been oriented toward a cooperatively structured candle-making task, taking turns dipping a string in melted paraffin until it grew to candle size. One of the small groups contained a child with autism, Judy. She had been working amicably with her partners for several days in several camping and craft activities. In fact, attitude probes taken at the end of each day of integrated activity revealed a pattern of perceived increasing friendship and growing confidence among her nondisabled peers. Suddenly, without any discernible warning signals (although Judy's parents had alerted us to the possibility of an outburst of excess behavior), she exploded into tantruming behavior. Her nondisabled peers backed off (literally) and adult leaders eventually resorted to the use of passive restraint to prevent her from injuring herself and others. That evening, peer ratings took a serious nose-dive. In response, we designed a "round-robin" arrangement to structure the next day's integrated group tasks so that nondisabled peers interacted with Judy one at a time and for short intervals, instead of collectively for long periods. Moreover, during the time that nondisabled peers were not interacting directly with Judy, they were encouraged to work on projects of their own. This simple strategy relieved the socialization pressure; peer acceptance ratings by nondisabled peers in Judy's group returned to their former high levels.

Type and Severity of Disability. Little empirical attention has been given to describing the relation between serious physical disability and its possible influence on social interaction. Cole (1986) of the MN group examined this relation in integrated settings involving children with severe disabilities. Findings showed that nondisabled children work a lot harder, receive and emit fewer social reinforcers, have less opportunity to play, and exhibit lower levels of social play when their partner has physical disabilities as well as severe mental retardation. Cole recommended that teachers concentrate on teaching specific social skills to both partners that will help them maintain good peer-to-peer relations, such as turn taking and providing positive feedback (smiling, attending to the other person, etc.). Several variations of teaching specific social skills to improve interactions have been implemented by other researchers, with generally promising results (Breen, Haring, PittsConway, & Gaylord Ross, 1985; Gaylord-Ross, Haring, Breen, & Pitts Conway, 1984; Strain, Cooke, & Appoloni, 1976).

Question 4:
Once Recreation Activities Have Been Selected, How Should Participants With and Without Disabilities Be Prepared for Successful Cooperation in These Activities?
Often, recreation leaders have chosen to promote either a tutorial or socialization role for participants without disabilities, depending on their desire to promote recreation skill acquisition (e.g., increased ability to toss a bocce ball) or socialization (e.g., increased social interaction). Both roles can be productive in promoting cooperative behavior in an integrated recreation program, although, according to Meyer and Putman (1988), the peer socialization role appears to carry less risk of inducing an authoritarian attitude, and the accompanying long-term negative results, in nondisabled peers. In peer tutoring programs, the nondisabled student typically receives systematic instruction on how to provide tutoring to a student with disabilities, a role that essentially parallels that of a teacher. Peer tutors are usually expected to interact with their peers in a "top-down" or "vertical" relationship, often using applied behavior analysis techniques as they teach. In contrast, a peer socialization program is expected to encourage peers to develop relationships as friends do, usually with initial direction from the adult leader. Peer socializers interact in a "side-by-side" or "horizontal" manner, with an emphasis on behaviors such as turn taking (Sailor & Guess, 1983).

In an effort to compare the social dynamics of a peer socialization (friend) approach and a peer teaching (tutoring) approach, Cole, Vandercook, and Rynders (1988) conducted a large scale study involving 10 classrooms in six different schools (60 child dyads). Peer socialization training focused on assisting nondisabled peers to understand disabling conditions, learn new communication and interactive play skills, and discuss what it is that creates and maintains friendship. Peer tutor training sessions addressed learning how to apply basic teaching principles (e.g., prompting, contingent reinforcement), communication techniques to promote achievement, and problem solving. Terminology also distinguished between the two types of training. Adults training peer friends used words such as play, share, and fun; those training peer tutors used words such as teacher, work, and help. Identical age-appropriate toys and games, such as a tabletop pinball game, a remote-

control car, and an electronic target game, were used in both conditions as interaction vehicles. Social reciprocity of appropriate play, cooperative play, and positive affect outcomes significantly favored the peer friend program over the peer tutoring program. Possibly the most socially important finding came from a self-report measure: The nondisabled children who were peer tutors reported having substantially less fun and being less interested in the integrated interactions than did the children who were peer friends. However, it is important to note that in this study a peer tutorial structure was introduced in a situation where playfulness was the likely expectation. Thus, it is conceivable that the tutorial structure did not fit the expectations of the nondisabled peers, who probably did not anticipate making play into "work." Moreover, because peers in this study were of the same age, a tutorial structure was conceptually incongruent with the vertical (tutorial) model, in which the tutor is usually considerably older than the one being tutored. Nonetheless, these findings highlight the need to monitor tutorial structures carefully to ensure that the interaction does not become unenjoyable for nondisabled peers. One study shows the consequences of this risk particularly clearly: Kohl, Moses, and Stettner-Eaton (1983) were successful in training fifth and sixth graders to act as instructional trainers of students with severe disabilities on various cafeteria skills, but their social interactions or instances of talking with their partners decreased substantially over time. Kohl et al. observed that talking with partners became secondary to correcting task errors or just observing students in anticipation of an error or a correct response.

On the other hand, Haring, Breen, Pitts-Conway, Lee, and Gaylord-Ross (1987) compared peer tutoring and peer socialization approaches (Voeltz et al.'s, 1983, Special Friends approach) among adolescents with and without autism, finding interesting outcome similarities as well as differences. For example, in terms of similarities, the two interaction modes did not result in significant differences in attitude; behavior probes (with familiar and unfamiliar students with autism) showed that the two groups interacted for nearly the same amount of time; and the pattern of interaction was identical. One difference was found: The Special Friends approach produced significantly more social exchange responses toward an unfamiliar confederate with autism. It is important to note (as Haring et al. did) that Voeltz's results were obtained with lower elementary-age children, in most cases, while the Haring et al. findings involved adolescents.

Sufficient research comparing the effect of vertical versus horizontal peer relationships has not been conducted; therefore, making authoritative recommendations as to their best use is hazardous. Nonetheless, the two techniques (socialization vs. tutoring) raise interesting issues for recreation professionals to consider. At first, it may appear to be an easy decision: The program is tailored according to the outcome desired--skill acquisition or social interaction. A peer tutoring approach is used if the primary objective is the acquisition of specific task skills, particularly, complex task skills; a peer friendship program is used if social interaction is the main objective. But making a choice between the two may not always be necessary or prudent. It might be more productive to concentrate initially on the facilitation of friendliness in a recreation program; later, it would be natural for one partner to teach another to play a new game or learn a new skill--in a friendly manner, and with good cooperative structuring on the part of the adult leader.

In a related vein, although the literature is replete with research focusing on social skills training (e.g., McConnell, 1987; Sisson, Van Hasselt, Hersen, & Strain, 1985) and leisure skills training (Horst, Wehman, Hill, & Bailey, 1981; Schleien, Certo, & Muccino, 1985; Schleien, Tuckner, & Heyne, 1985) for persons with severe disabilities, studies addressing the acquisition of both social skills and leisure activity skills by individuals with severe disabilities are scarce. Gaylord Ross et al. (1984) conducted two experiments designed to increase the initiations and duration of social interactions between students with autism and those without disabilities. In the first study, two students with autism were initially taught how to use three leisure objects: a radio, gum, and a video game. Object skill training alone had little impact on the social aspects of interacting with peers during break time in the high school courtyard. The addition of social skills instruction did produce a significant increase in social initiations and duration of interaction between the students with autism and their high school peers without disabilities. Object skill training and social skills training were combined in the second study, and a significant increase in the frequency and duration of social interactions was again demonstrated.

Haring and Lovinger (1989) examined the effects of social initiation training and play skill training on the level of initiation exhibited by students with severe disabilities toward peers without disabilities and the level of responsivity demon strafed by the peers without disabilities to those initiations. Two studies were conducted in free play settings (the first in a preschool and the second in a kindergarten classroom). The package of social initiation training and play skill training resulted in increased initiations by the children with severe disabilities and increased responsivity by their peers without disabilities in both studies.

Vandercook (1991) of the MN group examined the degree to which two skills (bowling and playing pinball in the community) were acquired by students with severe mental and physical disabilities and then generalized when provided the opportunity (with no additional intervention) to bowl and play pinball with high school peers without disabilities. She also investigated the impact of skill demonstration by students with severe disabilities on the social interactions between peers with and without disabilities during the bowling and pinball activities. Results indicated that the skills taught to the students with disabilities by an adult instructor were also demonstrated when they were provided an opportunity to engage in those same activities with peers. To examine the impact of skill demonstration on social interactions, correlations were calculated between leisure skill demonstration by the students with disabilities and specified social behaviors. Only the social skill labeled "cooperative participation" showed a strong correlation coefficient for more than one dyed and for both members of the dyed.

These few examples of studies that attend to both social and recreation skills development attest to the importance of addressing both in interventions, as opposed to one or the other in isolation. In this regard, McCord (1983), echoing Wolfensberger's (1983) stance, emphasized that the strengthening of bonds between people with and without disabilities will be dependent on interventions that bring about both skill development and image enhancement.

Question 5:
What Can Be Done To Keep Cooperation Crowing and Prospering?
Although virtually anything that enhances integrated participation once it has begun can influence its quality, longevity, and diffusion, we will focus on three aspects that we think are particularly pertinent: (a) How should an adult program leader give directions to promote positive interactions? (b) Once the integrated program is progressing, what is a reasonable period for it to continue? and (c) What can be done to promote integration across the broader "recreation" community or can become a part of the lifestyle of individuals involved?

Putman, Rynders, Johnson, and Johnson (1989) examined the issue of adult direction giving in a comparison of the effects of instructing nondisabled peers in specific cooperative play behaviors versus merely describing a cooperative task. The instructed group of nondisabled peers initiated significantly more cooperative play behaviors and verbal interactions than the description-only group. But the story would be incomplete without looking at the long-term effects of teacher instruction. In a systematic replication series of studies, the MN group demon strafed the importance of differentiating teacher intervention from teacher intrusion. The Special Friends program validated by Meyer (formerly Voeltz) and her colleagues in Hawaii (Voeltz, 1980, 1982; Voeltz et al., 1983) was used as a context for examining the effects of different intensities, frequencies, and durations of teacher directions on children's social and play behaviors. In the first study of the series, Meyer, Fox, et al. (1984) contrasted the high intrusion condition the teachers displayed during baseline with a low intrusion condition that restricted the level of teacher intervention. Two subsequent studies, conducted by Cole (1986) and Cole, Meyer, Vandercook, and McQuarter (1986), investigated the effects of different types of verbal messages on the children's interactions during play activities. The findings of this research can be summarized as follows: (a) Initial teacher direction carried out for no more than 2 weeks will provide positive support for children's cooperative play exchanges; (b) if such teacher directions continue over time, they will eventually be associated with decreases in cooperative play exchanges between the children, in comparison to fading those directions after an initial time limited, teacher-directed phase; (c) teachers' scripts in the form of "friendly comments" (comments about the weather, the weekend, etc.) are more readily tolerated by children than continued "social instruction" scripts (telling children how to behave). Implied is that friendship is an

intimate act, and adults who fail to allow children the necessary intimacy will prevent the very outcomes they are intending to foster.

With regard to the sustainability of integrated recreation programming, in one of the MN studies (Rynders et al., l 990),11 upper elementary age children (8 without disabilities and 3 with severe disabilities: 1 child with autism, 1 with a serious binaural hearing loss with mental retardation, and 1 with severe mental retardation and socialization deficits) lived, played, and worked together for 2 weeks in a camp setting. Intervention included preparing the nondisabled participant to interact effectively with peers who had severe disabilities and adults instructing participants with disabilities--using task analysis procedures--in activities such as using the waterfront more independently. Most activities were structured for interdependent (cooperative) participation, and instances of positive, heterogeneous, peer-to-peer interaction were reinforced socially when they occurred (but no cuing or prompting was used). Results showed that participants with severe disabilities improved substantially in their recreation skills. Moreover, participants without disabilities showed significant positive differences (pre-post) in their feelings of friendship toward their partners with disabilities. And, staff members showed significant positive differences (pre-post) in terms of their perception of the value of having persons with disabilities involved in their program (prior to the project, camping services had been provided on a segregated basis). Staff members also showed a significant positive difference (pre-post) in their desire for more integrated programming. As with several of our studies, the students with disabilities initiated few social bids toward their peers with or without disabilities and seldom reciprocated when nondisabled peers offered them. Furthermore, in this study, pre-post differences in the number of social bids offered by nondisabled peers was not statistically significant.

The question of how to promote inclusion across the recreation community reflects the historical exclusion of persons with disabilities in the community. To complicate matters, the "baseline" of comparison for the recreation choices and participation rates of people with disabilities versus those of nondisabled people has not been well established. In comparing the recreation activities of 108 children with and without mild mental retardation, aged 7 through 12 years, Matthews (1982) examined the type and frequency of participation for three groups: (a) low socioeconomic status (SES) with mental retardation, (b) low SES without mental retardation, and (c) middle SES without mental retardation. Children with mental retardation were found to participate significantly more often than other children in informal as opposed to formal activities, inexpensive as opposed to expensive activities, and accessible as opposed to inaccessible activities. Many similarities were found in the recreational activities of the three groups, with all children having similar activity patterns in the same settings. The only difference linked to mental retardation was that persons with mental retardation engaged in fewer social activities. Matthews's results are consistent with Edgerton's (1967) finding that the recreation activities of former adult residents of Pacific State Hospital, an institution for persons with mental retardation, were much like those of nondisabled peers in their neighborhoods.

The finding that persons with mental retardation participate in many of the same types of recreation activities, with similar frequency, as nondisabled members of communities is not an assurance that their recreation activity needs are being met or that the manner of participation is normalized or desirable. For example, if residents of a group home always attend movies in large groups, the activity would be contrary to the Normalization Principle (Wolfensberger, 1983) because of a disproportionate ("non-normal") proportion of persons with disabilities in a "self contained" group as compared with their natural representation in the general population.

SUMMARY AND RECOMMENDATIONS
In concluding, we shall attempt to construct a "synthesis of the synthesis," looking to ideas contained within the five areas of this review that appear to be especially promising now or warrant further study to become realized in the future.

Area 1 had to do with structuring integrated recreation activities to promote cooperation. Findings showed that a cooperative goal structure generally produces a much higher rate of positive social interactions than either an independent or a competitive goal structure. Furthermore, a variety of recreation contexts, (e.g., bowling, art,

sociodrama) have proven to be conducive to positive social interactions, with encouragement to pretend adding an enhancing dimension. However, structuring a task for cooperation does not guarantee that participants with disabilities will reciprocate, much less initiate, prosocial bids.

With regard to modifying infrequent social bid reciprocity on the part of recreation participants with disabilities, we do not have a satisfactory solution for this dilemma. One possible solution is to accept it as a problem inherent in persons with severe disabilities--a permanent lack in their social repertoires due to the disability itself. We do not accept this as a solution. Instead, we attribute the problem to our lack of attention to strengthening the "reciprocity repertoires" of persons with severe disabilities. In the future we intend to take fuller advantage of the work of Reichle and colleagues (e.g., Reichle, Rogers, & Barrett, 1984; Reichle, Sigafoos, & Piche, 1989), who have taught persons with severe disabilities to request preferred items using a manual sign or graphic symbol. Here again, a tutorial interaction role may be essential at certain points, a linchpin in satisfying friendships through which a substantially older, nondisabled peer could offer amicable practice opportunities in a reciprocal responding framework to a younger peer with a disability.

Area 2 addressed the question of which types of recreation activities are particularly conducive to cooperative interactions. Findings showed that the social components of a play activity, for example, turn taking in playing horseshoes versus the solitary use of a hula hoop, have an important influence on the behavioral appropriateness of children with autism. Moreover, size of play group, ratio of participants with to those without disabilities in a group, and affording an opportunity for choice making are important factors in facilitating social play richness in integrated recreation settings.

But, what about findings from the Colond et al. (1992) study showing that a homogeneous (all nondisabled) grouping produces a greater frequency of social interactions and symbolic play behaviors than a heterogeneous (half with and half without disabilities) grouping? Such a finding should not come as a surprise nor be viewed as an argument against integrated programming. Indeed, it would be surprising to find that heterogeneous grouping for ability did not produce different outcomes than homogeneous grouping for ability. In this regard, Guralnick (1992) reported that nondisabled children adjust the level of their language complexity when interacting with same-age peers who have severe disabilities, as compared with the language complexity exhibited among themselves as nondisabled peers. That nondisabled peers in the MN studies adjusted their interaction frequency and symbolic play level with integrated with peers with severe disabilities should be viewed as a positive finding--a finding reflecting sensitivity to the behavior of children with disabilities whom they encountered. Further, the integrated grouping of children in the Colond et al. study--half of whom had severe disabilities--may have produced findings that would differ in important ways from groups including fewer labeled children, according to their proportion in the general population (see Giangreco & Putnam, 1991, for a review on this topic).

Additionally, the finding of Colond et al. (1992) that levels of social interaction and symbolic play were not as high in the integrated grouping (as compared with the all-nondisabled grouping) should not be viewed as an indictment of integration, unless of course providers of dramatic play decide to never allow nondisabled children to interact with peers of their own, or higher, ability level. This is virtually impossible to imagine actually ever happening. Rather, we contend that non disabled children can profit from both homogeneous and heterogenous ability groupings, at times stretching their creativity and adaptive abilities as they interact with peers who are more accomplished in some area of recreation than they are, and at other times stretching their abilities to become more valuing of and enabling toward peers with less ability. In doing so, children with and without disabilities benefit themselves and each other in ways that are not available to either group when they are kept apart from one another.

Area 3 looked to identifying characteristics that promote cooperation. Participant characteristics that merit consideration include age and age discrepancy in individuals and pairs, presence of excess behaviors in participants with disabilities (and nondisabled peers' ability to cope with them), and the type and/or severity of a disability. Furthermore, the teaching of specific skills, to one or both partners, appears to be very helpful in

overcoming interaction difficulties. Not as clear is the impact of manipulating age and/or age discrepancy in partners with and without disabilities. The MN group has leaned toward having the nondisabled partner be 1 to 2 years older than the partner with a disability, even if the focus is on socialization, as the nondisabled child usually seems to be more at ease if she or he has an age advantage.

However, though it plays a powerful part in socialization at various periods in a child's life, age is not a factor free of variability of expression itself. The saying, "She's 6 years old going on 40" implies that the youngster to whom it refers has maturity beyond her age, which, in turn, could signal unusual ability to interact with a person who has a serious developmental disability. Conversely, advancing age does not necessarily lead to greater maturity; some nondisabled children may not become effective peer partners from a socialization standpoint even after extensive preparation. Much more research needs to be done on the influence of age as an integration enabler or barrier. Moreover, descriptive research is needed to discover what constellation of specific personality characteristics leads to effective (and ineffective) interacting with a partner who has a disability.

Area 4 focused on how to prepare participants for cooperation. The MN group has emphasized preparing nondisabled peers to function in a socialization role rather than in a tutorial role. This has been done because a socialization role seems to us to carry less risk of becoming authoritarian or appearing awkward. Equally important, the MN group has gravitated toward a socialization role because of its compatibility with the manner in which cooperative goal structuring has occurred in our integrated recreation situations. That is, desired recreation outcomes have been primarily social-interaction oriented, not skill-acquisition oriented. Nonetheless, a peer tutor role can be very useful in some integrated situations, particularly when the acquisition of a particular recreation skill might serve as a powerful enabling mechanism for socialization success.

In addressing this issue, we believe that cooperative goal structuring, as we have applied it up to this point, has been limited by our own vision. This includes limiting ourselves to the use of a similar-age/peer friendship/horizontal conceptual con figuration. Too strong a "line" between a tutorial and socialization (friendship) integration model may be somewhat artificial, because many of our cooperative recreation programs really do some "friendly" teaching as well as "friendly" socialization. Actually, the two conceptual models may have relatively untapped complementary possibilities. For instance, a community recreation program for young children might begin with a cooperatively structured/same-age/peer socialization emphasis and then be judiciously supplemented with cooperatively structured/ cross-age/peer tutoring that features recreation skill instruction. We have seen such an arrangement in a recent integrated horseback riding project sponsored by 4-H in which children with severe disabilities interacted with nondisabled children of the same age, riding horses together. At the same time, nondisabled college students (former 4 -H Junior Leaders) tutored the children with disabilities in the finer points of horseback riding, sharpening riding skills as socialization prospered. In our future work we plan to employ both of these strategies, with different goals and frameworks and across same and different ability levels and ages, in the hope of increasing the power of our intervention.

Area 5 emphasized research findings related to keeping cooperation growing and prospering. Findings showed that when an adult leader is providing goal structure in the form of peer interaction directions, he or she needs to avoid being unnecessarily intrusive, from both a quantitative and a qualitative perspective. Moreover, the leader will need to sensitively monitor the impact of directions being given throughout the interaction period, to adjust the type and/or frequency of directions as dictated by the success (or lack of success) of those interactions.

In addition to keeping peer-to-peer cooperation growing and prospering, the long-term sustainability and diffusion of integrated recreation programming is an area of inquiry requiring a great deal of creative attention. To illustrate this need, earlier in this article a 2 week integrated camping program was described. It was shown that nondisabled campers and staff members had significantly more positive perceptions of the integrated activities at the end of the program than at its beginning. Interestingly, the summer camp had been a highly successful self contained setting for more than 20 years before attempting integrated programming. Following a summer of integrated activity--and with a great deal of enthusiasm exhibited by staff (and participants) during and following its implementation--it returned to segregated form the very next summer. Why? Habit? Logistical

considerations? We do not know, but we do have a hypothesis about it: The integration of children with disabilities, particularly severe disabilities, maximizes heterogeneity in social, motor, cognitive, and other characteristics within individuals and across the group. This substantially larger range of abilities, in turn, requires activities to be constructed to simultaneously accommodate high-complexity and low. complexity demands. Hence, a proportionately greater set of challenges is placed before participants, staff members, parents, administrators, and others. In the long run, however, the need for staff and others to develop more skills in adapting activities to suit a greater diversity of needs will be of great benefit to the integration movement.

As researchers improve integrated programming for children with and without disabilities through cooperatively structured recreation activities, they help to advance the development of community life by a small but very important notch. No longer shunted off to self-contained environments, children with severe disabilities, living and playing in the community, can teach their nondisabled counterparts new lessons in personal growth and about enjoying life more deeply. In doing so both groups benefit and, ultimately, so does society.

Authors' Note

Note

Children with Down syndrome in the Rynders et al. (1980) study had severe mental retardation because they were selected from a self-contained special school serving children with moderate to severe disabilities. Severe mental retardation is not typical of most children with Down syndrome, who today are generally functioning in the mild to moderate intellectual range of mental retardation.

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