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Effects of Cooperative Games on the Prosocial Behavior Interactions of Young Children With and Without Impairments

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EFFECTS OF COOPERATIVE GAMES ON THE PROSOCIAL BEHAVIOR INTERACTIONS OF YOUNG CHILDREN WITH AND WITHOUT IMPAIRMENTS

by

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Bachelor of Science, Bemidji State University, 1974
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A Dissertation
Submitted to the Graduate Faculty
of the
University of North Dakota
in partial fulfillment of the requirements
for the degree of
Doctor of Education

Grand Forks, North Dakota
December
1989
This Dissertation submitted by Steven Grineski in partial fulfillment of the requirements for the Degree of Doctor of Education from the University of North Dakota has been read by the Faculty Advisory Committee under whom the work has been done, and is hereby approved.

Mario J. Pelizzari (Chairperson)

This Dissertation meets the standards for appearance and conforms to the style and format requirements of the Graduate School of the University of North Dakota, and is hereby approved.

Dean of the Graduate School
Permission

Title       EFFECTS OF COOPERATIVE GAMES ON THE PROSOCIAL
            BEHAVIOR INTERACTIONS OF YOUNG CHILDREN WITH
            AND WITHOUT IMPAIRMENTS

Department  Center for Teaching and Learning

Degree      Doctor of Education

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ACKNOWLEDGMENTS

Sincere thanks is given to my advisory committee members for their time and assistance: Dr. Mara Sapon-Shevin, Chairperson; Dr. Ivan Dahl, Dr. Sara Hanhan, Dr. Steve Harlow, Dr. Cynthia Pemberton, and Dr. David Kuschner. Special thanks to Dr. Dahl and Dr. Sapon-Shevin for their interest and support.

Appreciation is extended to the administration, faculty and children of the Moorhead State University Preschool. Thanks are given to Jay Solberg, for leading the research sessions, and to those assisting in data collection.

A thank-you is extended to Dr. Larry Reed and Elizabeth Wicker for their professional and personal support.

To Lee, Sara, and Abby, thank you for your love and help in keeping things in perspective.
ABSTRACT

The purpose of this study was to determine the extent to which cooperative games promote prosocial behavior interactions of young children with and without impairments and can be used for successful integration. Specific outcomes include: (a) a cooperative games model which can be used as a framework for selecting, modifying, or creating games that promote prosocial behavior; (b) a games curriculum designed to promote affective, psychomotor, and cognitive behaviors; and (c) a proposal of ways a cooperative games curriculum can facilitate social integration of children with and without impairments.

Sixteen children from the Moorhead State University Preschool between the ages of three and four years served as subjects for the study. Four children exhibited developmental delays of one to two years. A Behavior Interaction Checklist was used to record positive and negative physical contact and verbal interactions and goal-related cooperative behaviors. Children were observed and behaviors recorded over three conditions: Condition 1—regularly scheduled gross motor play program; Condition 2—cooperative games intervention program; and Condition 3—regularly scheduled gross motor play program following intervention. Each condition lasted three weeks and included four 30-minute sessions per week. All 36 sessions were led by a licensed physical education teacher. Four trained observers watched four
children using a recurring 30-second time sampling per child. Quantitative data were collected to show incidence of behavior interactions for each child and group and to allow comparisons in behavior interactions between conditions. Qualitative research methods were used to provide a more descriptive analysis of the relationship between game characteristics and resulting types and levels of behavior interactions for game participants.

Findings generated by the study include the following: (1) Cooperative games resulted in higher rates of positive physical contact than free play, especially for handicapped children. (2) Minimal effect on positive verbal interactions resulted from cooperative games participation. (3) Cooperative games enabled players to demonstrate high rates of goal-related cooperative behaviors. Lower rates were associated with free play, especially for handicapped participants. (4) The cooperative games program was an effective intervention in decreasing instances of negative physical contact and negative verbal interactions. (5) Specific game characteristics facilitated successful participation and positively affected player performance.
CHAPTER 1

INTRODUCTION

The Education for All Handicapped Children Act (PL 94-142) (1975) mandates that all children must be educated in the least restrictive environment. For many young children with impairments, the least restrictive environment is the regular education classroom. Vincent, Brown, and Getz-Shefter (1981) support this idea by suggesting that the best educational practice for educating young children with impairments is integrated programming. Integrated programming provides all children with learning opportunities in the same setting.

One important area of development that can be enhanced through integrated programming is social interaction. Some have suggested that the acquisition and refinement of social skills can also positively affect other areas of children's development, such as language (Asher, Renshaw, & Hymel, 1982; Hartup, 1978). The acquisition and refinement of social skills is important for all children, especially those children who may experience diminished or restricted learning as a result of physical, mental or sensory impairment.
Two major educational strategies have been reported to affect the social interaction among young children with and those without impairments. These are locational integration and planned intervention. Locational integration is placing students with and without impairments in the same setting for learning, while planned intervention is a structuring of the learning activities in an integrated setting. Although some evidence suggests that limited social interaction does occur when young children with and without impairments are placed in the same setting (Guralnick, 1981; Ispa & Matz, 1978), it appears that when teachers structure the learning environment when locational integration is also in place, both the quantity and quality of social interactions are maximized (Devoney, Guralnick, & Rubin, 1974).

One specific strategy for structuring learning experiences that has positively affected social interactions among students with and without impairments is cooperative structured learning (Johnson & Johnson, 1975). Cooperative structured learning requires students to work collaboratively and with mutual trust in order to achieve a common learning goal. When teachers use cooperative goal structures, students develop more effective social skills and demonstrate gains in academic achievement (Johnson, Maruyama, Johnson, Nelson, & Skon, 1981).
Children's games which have cooperative goal structures have been shown to result in increased prosocial behavioral interactions. Cooperative goal-structured games require a collaborative effort by all players to collectively achieve the goal of the game. In numerous studies, Orlick (1978, 1981a, 1981b) has demonstrated that the prosocial behavior of young children can be greatly enhanced through a program of cooperative goal-structured games.

Importance of the Study

Although PL 94-142 is over a decade old, the goal of an appropriate education in the least restrictive environment has not been achieved (Taylor, 1988). This has resulted in students being placed in overly restrictive and segregated settings, which have minimized their development and learning (Lily, 1988). Recently, suggestions for a partnership between regular and special education have been made in hopes of providing one educational system for all students (Stainback & Stainback, 1984). As a result of not achieving the goal of the least restrictive environment and the suggestions for an integrated school program, a need exists to focus research efforts on educational interventions that positively impact students. Research attempting to determine how teachers can better facilitate positive social interaction among children with and without
impairments is a necessary component in the development of integrated programming.

A planned intervention strategy that can be used to promote social interactions of young children is cooperative games. Cooperative games serve this purpose because:
1. Cooperative game play is an age-appropriate and normal activity for children.
2. Cooperative games provide a positive structure that allows all players to participate and make meaningful contributions to the outcome.
3. Cooperative games promote acceptance for all players.
4. Cooperative games are enjoyable for players because they all have an equal opportunity to achieve the goal.
5. Cooperative games require players to demonstrate prosocial behavior as a function of the games.
6. Cooperative games promote positive social interaction and attraction between players as a result of attempting to achieve goals collectively (Orlick, 1978, 1982).

Given the positive effect integrated programs have on the social interactions of young children and the need for appropriate intervention strategies, cooperative games represent a useful strategy for facilitating positive social interaction among children with and without impairments.
Statement of the Problem

The purpose of this study was to determine the extent to which cooperative games promote the prosocial behavior interaction among young children with and without impairments. Specific outcomes of this study include:

1. Development of a cooperative games model that teachers can use as a framework for selecting, modifying or creating games that promote prosocial behavior interactions.

2. Development of a games curriculum designed to promote affective as well as psychomotor and cognitive behaviors.

3. Proposal of ways in which a cooperative games curriculum can be used to facilitate the social integration of children with impairments and those without impairments.

Definition of Terms

For purposes of this study, this researcher has defined related terms as follows:

1. **Cooperative game.** Game that requires participants to work together in order to achieve the goal of the game.

2. **Cooperative goal-structured learning.** Learning based upon students working together to achieve the same learning goal.
3. **Game.** Contest with an element of opposition utilizing a structural framework (e.g., rules) in which participant(s) attempt to achieve a goal.

4. **Goal-related cooperative behavior.** Physical and/or verbal cooperative behavior that results as a function of an activity and is necessary for participation.

5. **Integrated programs.** Programs that provide educational experiences for students with and without impairments in the same setting.

6. **Negative physical contact.** Physical interactions that demonstrate a lack of help, support, assistance or encouragement toward another child (e.g., hit, push, throw object at another child).

7. **Negative verbal interaction.** Words or sounds that demonstrate a lack of help, support, assistance or encouragement toward another child (e.g., "You can't do that," "That's no good").

8. **Positive physical contact.** Physical interactions that demonstrate help, support, assistance or encouragement toward another child (e.g., hugging, holding hands, patting a back).

9. **Positive verbal interaction.** Words or sounds that demonstrate help, support, assistance or encouragement toward another child (e.g., "I'll help you," "Thanks," "Are you all right?").
10. **Prosocial behavior.** Behavior designed to benefit or aid another person or persons without concern over reinforcement (Mussen & Eisenberg-Berg, 1977).

**Procedure**

Sixteen children from the Moorhead State University Preschool between the ages of 3 and 4 years served as subjects for the study. Four of the children exhibit developmental delays of 1 to 2 years. A Behavior Interaction Checklist was used to record the positive and negative physical contacts and verbal interactions of the children. Children were observed and behaviors recorded over three conditions with each condition lasting three weeks and including four 30-minute sessions per week.

Condition 1 was the children's regularly scheduled gross motor free play program, Condition 2, the cooperative games intervention program; and Condition 3, the children's regularly scheduled gross motor free play program after the intervention program had occurred. All 36 sessions were led by a licensed physical education teacher. Each of the four trained observers watched four different children over the three conditions using a recurring 30-second time sampling per child. In addition to the quantitative data collection,
field observations of game participants and interviews with teachers were conducted by the researcher to gain insight into the interactions of the children.

Quantitative data were collected to show incidence of behavior interactions for each of the 16 children and the group as a whole and to allow comparisons in behavior interactions occurring between conditions. Qualitative research methods were used to provide more descriptive analyses of the relationship between game characteristics and the resulting types and levels of behavior interactions for the game participants.

Parameters of the Study

This study was conducted within the following parameters:

1. The subjects were predominantly white and resided in a small midwestern city.
2. Sixteen children were involved in the study.
3. Three different sessions were used for observing and recording behaviors during the study.
4. The study was conducted over a nine-week period.
5. A researcher-designed Behavior Interaction Checklist was used as the instrument for recording behaviors.
While the findings generated by this research were reflective of the children studied, caution is advised in extrapolating these results to groups of children of similar age due to the above limitations.
CHAPTER 2

REVIEW OF THE LITERATURE

This review of literature documents the importance of integrated programming for young children with impairments within the context of PL 94-142. The issue of maximizing social interaction for young children with impairments being educated in integrated settings is examined as a function of locational integration or planned intervention. Cooperative structured learning and games are reviewed and methods reported which affect social interactions of children.

Public Law 94-142 and the Least
Restrictive Environment

Public Law 94-142 mandates that students with impairments be educated in the least restrictive environment. For many mildly and moderately impaired students, the least restrictive environment is placement in the regular education classroom with non-impaired peers. This doctrine of the least restrictive environment also applies to young children who are impaired and exhibit abnormal or delayed development. Vincent, Brown, and Getz-Shefter (1981) state:
The least restrictive mandate of PL 94-142 can only be interpreted as being fulfilled if the programming is conducted in an integrated setting. . . . Philosophically, integrated programs come closer to exemplifying the principles of normalization. . . . They maximize the possibility that young handicapped children will be recognized to be normal in some areas of development and that this similarity between handicapped and typical children will be highlighted. . . . Currently, best educational practice is integrated programming (p. 23).

The rationale for integrated programming for young children with and without impairments has been described by Bricker (1978). This rationale includes social-ethical, legal-legislative, and psychological-educational reasons for integrated delivery systems. The social-ethical perspective suggests that negative attitudes and low expectation can be reduced if students are allowed to interact and learn together. When this occurs, children with impairments are accepted and respected by their peers and more welcomed into the normalized society.

Key court cases have formed the basis for the legal-legislative reasons of integrated programming. Some of these cases include Hobsen v. Hansen (1968), Brown v. the Topeka Board of Education (1954), Pennsylvania Association for Retarded Citizens v. the Commonwealth of Pennsylvania, (1971), and Mills v. the Board of Education of the District of Columbia (1971). The decisions emanating from these cases provided the impetus for the development of the educational rights for all handicapped children as noted in
PL 94-142. These rights include a free and appropriate public school education in the least restrictive environment and the due process rights of parents or guardians regarding the educational decisions affecting their child. Bricker (1978) notes: "The messages of such mandates may be that the integration of handicapped children into programs with nonhandicapped children is not an option but a necessity" (p. 23).

The psychological-educational argument suggests that if children are to experience normal development they need a progressively more demanding learning environment. This type of environment can best be achieved by placing impaired and non-impaired young children together in the regular classroom. Young children with impairments, when provided with planned and appropriate opportunities to learn and play with their non-impaired peers, can acquire new skills through observation. Peterson and Haralick (1977) concur with Bricker (1978) on the benefits of modeling for the young child with impairments and suggest that normalization will only occur if young children with impairments are educated in the regular classroom with their non-impaired peers.
Social Interactions

An important outcome that can be achieved through integrated programming for young children with impairments is providing opportunities for social interaction with peers. There is evidence to suggest that a relationship exists between peer interactions and language development, socialization, and adjustment (Asher, Renshaw, & Hymel, 1982; Hartup, 1978; Rogers-Warren, Ruggles, Peterson, & Cooper, 1981). In integrated settings, non-impaired peers can provide appropriate social language models and serve as playmates in more normalized and demanding learning environments than in segregated settings; this results in young children with impairments being more welcomed and accepted by their peers (Bricker, 1978). Fostering this relationship in the early years is especially significant because the acceptance of handicapped playmates by nonhandicapped children is greatest during the preschool years (White, 1980).

If young children with impairments do not participate with non-impaired age mates in playing and learning situations, they may develop social skill deficiencies. These deficiencies may result in difficulty with various academic and social tasks and be reflected in a low self-concept and lack of acceptance by peers in later years (Rogers-Warren et al., 1981). Parents with children in
integrated programs identify the development of social interaction skills as an important outcome for their children (Turnbull, Winton, Blacher, & Salkind, 1982).

Investigations of the social interaction of young children with and without impairments have focused on two levels of integration. These include situations that rely on locational integration and those that implement planned intervention strategies in integrated settings.

Social Interaction as a Result of Locational Integration

Some researchers have reported that social interaction does occur among young children with and without impairments as a function of their placement. Guralnick (1981) has reviewed investigations on the efficacy of integrating young children with and without impairments in the same classroom. He reports an inverse relationship between the amount of social interaction and severity of impairment for the children studied.

In a study examining the effect severity of impairment had on social interactions, 37 children were placed in four different groups (i.e., 12 nonhandicapped, 9 mildly handicapped, 5 moderately handicapped, and 11 severely handicapped) for analysis (Guralnick, 1980). Observations of social interactions conducted during an integrated, free
play time revealed that nonhandicapped and mildly handicapped children interacted more frequently with each other and less frequently with the moderately and severely handicapped children. Although interaction between the higher and lower functioning children was reported, it was minimal. Based on his results, Guralnick suggests that nonhandicapped and mildly handicapped young children can be integrated and derive some benefits from this type of placement (i.e., locational integration).

The social interactions occurring between 28 young children with and without impairments in the High/Scope First Chance Preschool were examined by Ispa and Matz (1978). Analysis of the data collected suggests that children participating in the High/Scope First Chance Preschool experienced some successful interactions with their peers. No significant differences were noted in levels of social play for the children studied. It is important to note that most of the handicapped children in the Ispa and Matz study were mildly involved, at least one year older than their nonhandicapped peers, and exhibited higher levels of social play than their nonhandicapped peers. These variables seem to have a positive effect on the social interactions of children placed in integrated preschool programs.
Favorable evidence supporting the idea that integrated programs promote social integration was reported by Peterson and Haralick (1977). Daily observations of free play sessions in an integrated preschool classroom were conducted. Data collected during the observation period indicated there was social interaction occurring between the children. Based on their findings, Peterson and Haralick suggested that rejection and discrimination against handicapped children was not evident. They believe that integrated preschool programs are appropriate for handicapped children because the development of social and other skills for handicapped children can be greatly enhanced through modeling performed by nonhandicapped peers. They conclude that segregated programs do not promote normalization or successful educational functioning.

Taken as a whole, the studies cited indicate that limited social interaction does occur as a result of locational integration, at least for mildly and moderately involved children, and that the social development of young children with impairments can be enhanced through participation in an integrated preschool program.
Social Interactions as a Result of Planned Interventions

Although, as previously noted, limited social interaction does occur among young children with and without impairment in integrated settings, some researchers suggest that planned intervention is necessary for more extensive social interaction to occur (Appoloni & Cooke, 1978; Fredericks et al., 1978). A review of the existing research examining the social interactions occurring between severely handicapped and nonhandicapped students placed in integrated settings was conducted by Stainback and Stainback (1981). They suggest that if integration of handicapped and nonhandicapped students is to maximize interaction, specific intervention will need to occur. This intervention might include modifications of materials, classroom arrangements, or the structuring of pupil interaction. Peterson and Haralick (1977), who reported interactions as a result of physical proximity, remind teachers that physical proximity assumes locational integration will result in opportunities to develop social and developmental skills, but caution that this assumption does not always hold true.

In support of this warning, Fraught, Balleweg, Crow, and Van Den Pol (1983) state: "It seems reasonable to conclude that more advanced interactional behaviors (e.g., touching, speaking, cooperative play) will not occur at
optimal levels between nonhandicapped preschool children and their handicapped peers unless they are systematically guided and encouraged through active programs" (p. 214). Systematic and guided plans for interaction were also seen as significant factors leading to successful integration among young children with and without impairments by Guralnick (1976), who suggests that locational integration is necessary but not sufficient for the appropriate education of young children with impairments to occur.

Significant increases in social interaction among nonhandicapped and handicapped preschoolers when teachers directly intervened and structured play were demonstrated by Devoney, Guralnick, and Rubin (1974). These researchers collected data over three different conditions: handicapped segregated free play, integrated free play without teacher intervention, and integrated free play with teacher intervention. Their findings indicate that when teachers intervene and structure the play activity for handicapped and nonhandicapped young children, the social interactions of the handicapped children are positively affected (i.e., there is increased incidence) because of the structure applied to the situation.

Pre- and post-measurements were used to analyze peer interaction data collected during the school year on an experimental (i.e., integrated) group and control (i.e.,
segregated) group comprised of preschool children (Jenkins, Speltz, & Odom, 1985). Results from the pre- and post-measures revealed no significant differences between the experimental and control groups. Even though these researchers report some gains in social interaction, they state that a structured curriculum is necessary to promote successful integrated programs, as physical proximity is simply not sufficient. They suggest:

Perhaps integrated preschools can have the positive effects that have been suggested by some researchers if the schools use a planned and systematic curriculum which structures cooperative goals for handicapped and nonhandicapped youngsters, use nonhandicapped children as models to demonstrate target behavior or trains them as confederates. . . . Recently completed work in our laboratory school suggests that a combination of these variables has significant positive effects on language and social development of handicapped preschoolers (Jenkins et al., 1985, p. 16).

Based on their investigations and suggestions, Jenkins et al. (1985) specify four levels of involvement that can enhance integration in classrooms for young children with and without impairments. These types include the following:

1. **Proximity.** Identical treatment provided for all children.

2. **Cooperation.** Children work to achieve mutual goals.

3. **Imitation.** Nonhandicapped children serve as models for handicapped children.
4. **Confederate.** Nonhandicapped children are trained and reinforced to perform specific behaviors.

A study was conducted to determine if the level of structure would positively affect the frequency of peer interactions occurring in a mainstreamed preschool classroom (Dekyen & Odom, n.d.). A curriculum entitled "The Integrated Preschool Curriculum" was used for programming during the study because it is comprised of activities designed to increase peer interactions among preschool children. The results of this study indicate that the amount of structure in play activities is positively related to positive peer interactions for the mainstreamed classrooms studied. Other researchers have conducted similar studies to determine the effect of different aspects of environmental and instructional structuring on social integration. The following factors have all been associated with increases in social interaction: direct instruction methods (O'Connell, 1986), the use of specific play materials and activities (Beckman & Kohl, 1984), goal-directed curriculum models (Allen, 1981), and implementation of a behavioral approach (Nordquist, 1978).

Although there has been some evidence reported (Guralnick, 1981; Ispa & Matz, 1978; Peterson & Haralick, 1977) that locational integration does result in limited social interaction among young children with and without
impairments, it appears that when teachers structure the learning environment, both the quantity and quality of social interactions for young children being educated in integrated programs increase (Devoney et al., 1974). Two examples of structured practices that have been reported to promote positive social interaction among students are participation in cooperative structured learning experiences (Johnson & Johnson, 1975) and games (Dauer & Pangrazi, 1986; Orlick, 1976).

**Cooperative Structured Learning**

A variable that may exert influence on the social interactions occurring among impaired students and their non-impaired peers is the way teachers structure opportunities for students to achieve learning goals. It has been suggested that teachers typically employ three different types of goal structures in their classrooms to facilitate learning (Johnson & Johnson, 1975). These goal structures include the following:

1. **Competitive.** Students work in opposition to other students in an attempt to achieve a learning goal that can only be achieved by one student or a small group of students.

2. **Individualistic.** Students work in isolation to achieve their personal learning goal.
3. **Cooperative.** Students work together to achieve the same learning goal.

Johnson and Johnson have completed a significant amount of research examining the effects learning goal structures have on the social interactions of impaired and non-impaired students of various ages and across different subject areas. These researchers have demonstrated that the quantity and quality of social interaction and acceptance of impaired students by their non-impaired peers is directly related to the type of goal structure a teacher selects. There is evidence to suggest that when teachers use cooperative goal structures, both impaired and non-impaired students are more productive and experience higher levels of achievement, like school and their classmates more, and develop more effective social skills (Johnson, Maruyama, Johnson, Nelson, & Skon, 1981; Johnson & Johnson, 1983). Four criteria necessary for developing cooperative structured learning experiences have been noted (Johnson & Johnson, 1986):

1. **Positive interdependence.** Students are aware that their own contributions to achieving the learning goal are directly connected to their peers' contribution to achieving the learning goal.

2. **Individual accountability.** Students are individually assessed so that other group members know who requires additional help. This criteria reinforces the notion
that each student's contribution is necessary for group achievement of the learning goal.

3. **Collaborative skills.** Students must learn and use collaborative skills in order to function successfully in a group. Some of the skills include decision-making, trust-building and communication.

4. **Group processing.** Students working together in groups need time for planning, decision-making and evaluating. Communication that is clear and direct is important if group interactions are to be productive.

An active-encouragement theory for successful mainstreaming has been put forth by Johnson and Johnson (1984). This theory is based on the use of cooperative learning in structuring goal achievement for students with and without impairments. This theory suggests that group efforts directed toward achieving a common goal will promote active involvement in the given task by the participants. Also, mutual support for each other's contribution toward task achievement will result in more interaction and attraction among students. It is interesting to note that Rynders, Johnson, and Johnson (1980) report that interpersonal interaction and attraction occur within a cooperative learning structure even when the contribution of some group members to the goal achievement is minimal.

Johnson and Johnson (1984) report that working together in
groups, interacting in positive ways, feeling support and encouragement, understanding another's perspective, accepting self, feeling academically successful and developing positive peer relationships were benefits gained from using cooperative structured learning for elementary students in mainstream classes.

Cooperative learning groups have also been used as an educational intervention method to improve the social status among children with mild mental handicaps integrated into a regular classroom. In a study by Ballard, Gottlieb, Corman, and Kaufman (1977), 37 classes were selected, and each class was divided into cooperative learning groups made up of 4 to 6 children. In each classroom, a student with a mild mental handicap joined one of the learning groups. Group responsibilities included selecting a task, planning the time required to accomplish the task, deciding on job responsibilities, executing the task, and making a group presentation. At the end of an 8-week (5 days per week, 40 minutes per day) cooperative learning group treatment, the researchers reported improved social status for the children with mild mental handicaps placed in the cooperative learning groups.

The effects of cooperative and individualistic goal structures for students with and without learning disabilities during swimming instruction were studied by
Martino and Johnson (1979). Students were divided into two groups that included a cooperative structured learning group and an individualistic structured learning group. Students in the cooperative group (i.e., pairs of students with and without learning disabilities) mutually worked together to achieve the goal of both students learning to swim. Students in the individualistic group (i.e., students not paired) worked alone in learning the swimming skills. A free play period was used during the study for the purpose of observing and recording behavioral interactions (i.e., friendly, hostile). These observations indicated that more friendly free play interactions were demonstrated by the students in the cooperative structured groups than by the students in the individualistic structured groups, while more hostile free play interactions were demonstrated by the students in the individualistic structured groups. Also, while the nonlearning disabled students in both groups performed the 20 swimming skills satisfactorily, the learning disabled students in the cooperative structured groups performed more swimming skills satisfactorily than did learning disabled students in the individualistic structured group.

Using a similar research design, Johnson and Johnson (1984) conducted a study to determine physical proximity patterns and level of social interaction among handicapped
and nonhandicapped students being educated in a large, inner-city elementary school. Forty-eight fourth grade students (36 nonhandicapped and 12 handicapped) were placed in either a cooperative structured learning group or an individualistic structured learning group and received social studies instruction for a 55-minute period over 15 days. Following the treatment program, two integrated free play sessions were provided to observe and record the physical proximity and level of social interaction among the subjects. Students placed in the cooperative structured group achieved higher scores, and a higher incidence of integrated engagement with associated higher levels of giving and receiving during free time than did the students placed in the individualistic learning group.

A study was conducted with 30 fifth grade students to examine the effects of cooperative and individualistic goal structures on three variables: (a) prosocial behavior, (b) attitudes toward learning, and (c) attitudes toward achievement (Johnson, Johnson, Johnson, & Anderson, 1976). These variables were measured by questionnaires on learning attitudes, altruism task, and an affective perspective taking task. Achievement tests were also given. Results of this investigation suggest that cooperative interactions with peers promote altruistic behavior, enhance one's ability to understand another person's perspective, and
promote feelings of acceptance and support. Higher daily achievement scores for the students placed in the cooperative structured learning groups were also noted.

The relationship between the type of goal structure (i.e., cooperative, individualistic, competitive) and the amount of rejection and acceptance of handicapped students was studied by Rynders et al. (1980). Three groups, each matched to a particular structure type, received instruction in bowling. Each group was comprised of 10 nonhandicapped and 4 handicapped (i.e., mentally retarded) students, 13 to 15 years of age. The cooperative structured learning group's goal was to improve their score by 50 pins from the previous week's score. The students in the competitively structured learning group were told to improve their personal score so as to outperform the other students. The students in the individually structured learning group were told to improve their personal score by 10 pins over their previous score.

Data collected over the instructional treatment program yielded the following results:

1. Nonhandicapped students in the cooperative structured learning group demonstrated more praise, encouragement and support toward their handicapped teammates than their nonhandicapped peers in the competitively or individually structured learning group.
2. Handicapped students demonstrated positive social interactions with their nonhandicapped peers 29 times per hour in the cooperative structured learning group, 4 times per hour in the individualistic structured learning group, and 2 times per hour in the competitively structured learning group.

3. Although bowling scores were higher for the nonhandicapped students, interpersonal interactions with the handicapped students with lower scores were not negatively affected.

A study with hearing impaired and nonhearing impaired students was conducted to determine the effects that cooperative and individualistic structured learning groups would have on social interaction and interpersonal attraction (Johnson & Johnson, 1985). Students in the cooperative group worked together to complete a group of mathematics papers, while the students in the individualistic group worked alone to complete the same group of mathematics papers. The results of this study reveal that the students placed in the cooperative structured learning group outscore similar students placed in an individualistic structured learning group on measures of social interaction and interpersonal attraction.

Johnson and Johnson (1985) believe that, given the tremendous communication disability associated with hearing
impairments and the resulting social interaction deficit that may occur, the fact that cooperative structured learning groups can promote positive social interactions between hearing and hearing impaired students is significant.

From this examination of cooperative structured learning research, it appears that when teachers direct students to work collectively to achieve goals, many benefits are realized. A major benefit of such structuring is the amount and type of social interaction and attraction that occurs among the students involved.

**Game Participation**

Another instructional area believed to enhance social interaction is game play. Many believe that games enhance the prosocial behavior development of children because of the numerous opportunities available for social interactions, the structural demands of the game (e.g., turn taking) and the significant time children spend in game play. Ritchie and Koller (1964) suggest that games provide an ideal medium for social interaction because games are of primary interest to children and because of the externally imposed limitations directed toward the players (i.e., rules). Pangrazi and Dauer (1981) also support the benefits of games for young children, and state, "games are an
excellent medium for social and moral development, since certain rules must be followed if the game is to be enjoyed by all" (p. 254). These authors believe that game participation can make contributions to young children, including enhancement of or more frequent playing with others, understanding fair play, and understanding the feelings of others.

Salt, Fox, and Stevens (1960) have written that games provide a laboratory for children to experience social interactions. In this laboratory, children have the opportunity to develop and demonstrate such social behaviors as preparation for group living, cooperation and sincerity. Those who develop these behaviors, it is suggested, will be more effective leaders and followers in group activities. Several authors have written in support of the idea that specific social outcomes are associated with game participation. Some of these outcomes include group planning and recognizing others' rights (Sehon, Anderson, Hodgins, & Van Fossen, 1949), sharing and working together (Anderson, Elliot, & LaBerge, 1972), playing for a common goal and being a contributing member of a group (Werner, 1979), helpfulness and consideration (Stuart, 1960), and intrapersonal skills (Andrews, Saurborn, & Schneider, 1960).

As noted, some educators strongly believe that game play can greatly impact on the lives of young children and
greatly enhance their prosocial behavior development. However, it can also be argued that unless games are carefully examined and the structural components of the game fully understood, the desired prosocial behavior outcomes associated with a given game may not be achieved (Morris, 1980; Corbin, 1969). Nicols (1986) and Corbin (1969) note that social development is usually thought of as a rather obvious outcome associated with game play for children. They state that positive social behaviors will only be learned through a systematic plan of specific social objectives and appropriate evaluation. In her article entitled "Games and Humanism," Riley (1975) suggests that if we are to better understand the effect games have on children, we need to "gain deeper insight into the nature of games and to analyze the demand of the games on the players" (p. 33). Riley (1975, p. 31) provided six questions that encourage examination and intervention of existing practices for teachers interested in children's games. These questions are:

1. Can children learn to cooperate and collaborate and make decisions that are agreeable for all players?

2. Why do some game situations cause players to make unproductive contributions (i.e., feeling hurt, nonparticipation) to the game outcome?
3. Why do some game situations draw attention to the lack of ability of some players?

4. What about a game causes players to opt not to participate?

5. What is really learned in a game, and is it important?

6. Can interpersonal relationships be promoted by game playing?

Marlowe (1980a) suggests that specific social and emotional purposes associated with games will not be met unless the structure of the game is examined, analyzed and changed to accommodate the players. He states, "Hoping that a game will enhance the socialization or self-concept of a handicapped child is wishful thinking at best unless the game is carefully structured to promote such behavior" (p. 50). Marlowe (1980b) has reported that his process of examination, analysis and change in games has resulted in an increase in peer acceptance of socially isolated children.

**Cooperative Structured Games**

Games which are cooperative (i.e., collaborative effort is necessary for goal achievement) have been reported to be best for promoting desirable prosocial behaviors. An example of a cooperative game is Fish Gobbler. In this game, players respond collectively to commands given by the leader or Fish Gobbler. The goal of the game is for all the
players to work together to quickly respond to the commands. Examples of commands include: Fishnet—all join hands; Sardines—all lie on the floor and touch. This type of game is in contrast to competitive games in which two or more players attempt to achieve the goal of the game at the expense of the other players (e.g., Elimination Dodgeball).

Terry Orlick has been very influential in promoting the development and refinement of cooperative games (Orlick, 1978). Orlick's games are based on four concepts: cooperation (i.e., participants working together), acceptance (i.e., participants belonging to a group), involvement (i.e., participants contributing), and fun (1978).

Orlick has demonstrated that the prosocial behavior of able-bodied preschool and kindergarten children can be greatly enhanced through a program of cooperative games. In a study in which preschool children were observed and prosocial behaviors recorded during free play time, the children were divided into three treatment groups: a cooperative games group, an individual games group, and a free play group (Orlick, 1981a). Each group received three 25-minute treatment sessions per week for a period of 16 weeks. The preschool children participating in the cooperative games treatment program displayed a significant increase in prosocial behaviors during a follow-up free play
session. A similar research design was developed and implemented using kindergarten children (Orlick, 1978). Following an 18-week cooperative games treatment program, the cooperative games group exhibited a significant increase over the percentage of observable cooperative behaviors at baseline or a direct increase of 5%. Using a continuous scanning technique, Orlick noted that the cooperative games group engaged in 43 observable cooperative behavioral instances per hour, compared to 29 observable cooperative behavioral instances per hour for the control group.

In yet another study, Orlick (1981b) demonstrated that following an extensive cooperative games program, preschool children were more willing to share candy with their peers instead of keeping it for themselves. Orlick and Foley (1979) report that cooperative games can also enhance cooperative behavior in very young children ages 2-1/2 to 4-1/2 years. From this examination of Orlick's work, one can see evidence to support the belief that young children are indeed capable of performing prosocial behavioral acts and that specific cooperative games can facilitate their occurrence.
Cooperative Games Facilitating Positive Social Interaction

Evidence has been presented which suggests that cooperative structured learning activities and cooperative games are strategies that may affect the prosocial behavior interactions of young children educated in integrated settings. The use of cooperative structured games as an intervention strategy is advisable for the following reasons:

1. Cooperative game play is an age appropriate and normal activity for children.
2. Cooperative games provide a positive structure that allows all players to participate and make meaningful contributions to the outcome.
3. Cooperative games promote acceptance for all involved players.
4. Cooperative games are enjoyable for players because they all have an equal opportunity to achieve the goal.
5. Cooperative games require players to demonstrate prosocial behaviors (i.e., caring, sharing, helping).
6. Cooperative games promote positive social interaction and attraction between players as a result of attempting to achieve goals collectively (Orlick, 1978, 1986).

It is interesting to note that Orlick's cooperative game concepts match explicitly with the levels of
involvement that can occur among young children being educated in integrated settings identified by Jenkins et al. (1985): (a) proximity, (b) cooperative, (c) imitation, and (d) confederate. Many cooperative games require a physical closeness (i.e., proximity) to achieve desired goals, while all cooperative games require mutual goal interdependence (i.e., cooperation). Modeling (i.e., imitation) is used by many cooperative game players in hopes that other players will perform the given task leading to goal achievement. Many times, cooperative games are student directed, which might encourage a confederate type involvement based on peer teaching and reinforcement.

Given the evidence presented regarding the positive effect integrated programs have on the social interactions of young children and the need for specific intervention strategies within those settings, cooperative games appear to represent a viable strategy for facilitating positive social interaction among children with and without impairments.
CHAPTER 3

METHODOLOGY

The purpose of this study was to determine the extent to which cooperative games promote prosocial behavior interaction among young children with and without impairments. Specific outcomes of this study include:

1. Development of a cooperative games model that teachers can use as a framework for selecting, modifying, or creating games that promote prosocial behavior interactions.

2. Development of a games curriculum designed to promote affective as well as psychomotor and cognitive behaviors.

3. Proposal of ways in which a cooperative games curriculum can be used to facilitate the social integration of children with and those without impairments.

This chapter details the rationale for site and subject selection and provides a rationale for the selected research methods. This rationale explains preliminary research activities, conducted over a two-year period, leading to the development of methods for data collection, data treatment, and games selection.
Site and Subject Selection

The Moorhead State University (MSU) Preschool was selected for conducting field observations of young children and interviews with teachers during the study. The MSU Preschool is accredited by the National Association for the Education of Young Children and collaborates with the Clay County Coordinated Preschool Program (CCCPP) in providing integrated preschool services. The CCCPP is a non-categorical interagency program for special needs infants, toddlers, preschoolers and their families.

The goals of the MSU Preschool are to provide educational experiences for children ages 18 months to five years and to serve as a demonstration site for university preservice and inservice teacher education programs (e.g., student teaching). Six full-time teachers, two part-time administrators, and two full-time staff are employed by the MSU Preschool. There are five classes in the school, each with approximately 8 to 12 children grouped as follows: 18 to 24 months; 2 years to 3 years; 3 years to 3-1/2 years; 3-1/2 years to 4-1/2 years; and 4-1/2 years to 5 years.

The MSU Preschool was selected as a site for conducting this study because of this researcher's prior professional relationship with administration and staff, models of quality educational practices, and accessible play space. Initial discussion of research interests leading to final
approval by the MSU Preschool's administration and staff was initiated by an informal meeting.

During this meeting, research ideas and direction were shared with all staff. Given their commitment to quality educational programs, the MSU Preschool and CCCPP administration and staff responded favorably to the specified research efforts and demonstrated enthusiasm for the study. One concern expressed by the staff was potential disruption of the daily routine and schedule that might occur as a result of the study. To address this concern, it was decided that only the 3-1/2 to 4-1/2 year old group would participate in the study during the morning gym time.

The group participating in the study was comprised of 12 children (7 girls and 5 boys) from the MSU Preschool and 4 children (1 girl and 3 boys) from the CCCPP. This group of 16 children ranged in chronological age from 3 years 4 months to 4 years 6 months, with a mean age of 4 years. The four children from the CCCPP exhibited general developmental delays of one to two years in the large and fine motor, cognitive, sensory, and speech/language areas. These children attended the CCCPP 7.5 hours per week (3 days at 2-1/2 hours per day), receiving early childhood special education, occupational therapy and speech services, and integrated experiences with age mates from the MSU Preschool. All four children from the CCCPP regularly
participated in the morning gross motor free play time as part of their integrated program.

A formal research contract (Appendix A) was developed by the researcher and agreed upon by all appropriate personnel. This contract stipulated that research data would be collected over three 3-week periods, to include 36 lessons. In addition, interviews would be conducted with the group teacher and the games instructor.

Development of Research Methods

In order to provide a rationale for the selected research methods, a description of preliminary research activities is presented. This methodology evolved over a two-year period (1987-1989) through the use of field studies conducted by the researcher and through the use of published research by Orlick (1981a, 1981b; Orlick et al., 1978). Development of the following research phases occurred over the two-year period: Phase I—Preliminary Study: Prosocial Behavior Inventory, Preliminary Behavior Interaction Checklist; Phase II—Research Design Development: Prosocial Behavior Interaction Checklist, 1988 Pilot Study; Phase III—Selected Research Design: Revised Behavior Interaction Checklist, Games Selection, and Research Design.
Phase I: Preliminary Study

Prosocial Behavior Inventory

The initial development of a behavior interaction checklist was based on results drawn from a prosocial behavior inventory completed by five preschool teachers during 1987. These teachers ranked 13 distinct prosocial behaviors important for young children to develop during group play experiences (Appendix B). The five behaviors reported most often were (a) working together, (b) cooperating, (c) supporting each other, (d) physical affection, and (e) verbal encouragement (Henrick, 1975; King & Kerber, 1968).

Preliminary Behavior Interaction Checklist

Behaviors generated by the prosocial behavior inventory were used to develop a preliminary behavior interaction checklist for the group play observation of young children (Appendix C). This checklist was employed for data collection during 24 thirty-minute free play and group game sessions. Twelve 4- to 5-year-old children participated in these preliminary experiences while the researcher observed and recorded behavior interactions. The following observation time samplings and techniques (Orlick et al., 1978) were used during these observations to determine which
was most appropriate for use in observing and recording group play interactions of young children:

1. Left to right playspace scan, 10 seconds (researcher looking at the environment starting at the left and continuing to the right every 10 seconds)

2. Left to right playspace scan, 30 seconds (researcher looking at the environment starting at the left and continuing to the right every 30 seconds)

3. Individual child sample, 10 seconds (researcher observing one child for 10 seconds)

4. Individual child sample, 30 seconds (researcher observing one child for 30 seconds)

5. Individual child sample, 60 seconds (researcher observing one child for 60 seconds)

6. Individual child sample, 120 seconds (researcher observing one child for 120 seconds)

From these observations, the individual child sample for 30 seconds was deemed most appropriate for the following reasons:

1. The playspace scan allowed for emphasis on behavior interactions only, not children, which was to be the focus of the dissertation study.

2. The individual child sample provided opportunity to study children's individual experience and to compare
across a variety of categories (e.g., other children, different activities).

3. A 30-second time sampling interval best allowed for a cycle of game interaction to occur for game participants.

Further development of a behavior interaction checklist occurred using information gained from the 24 thirty-minute free play and group game sessions. From these observations, it was learned that recording interactions is difficult if the observational categories are vague and/or similar in description. This information suggested that in order to more accurately observe and record behaviors, the behaviors should be discrete, easily observed, and limited in number (Orlick et al., 1978).

Phase II: Research Design Development

Prosocial Behavior Interaction Checklist

The information gained from this preliminary work resulted in a checklist that included two behavioral categories: positive physical contact and positive verbal interaction (Appendix D). Positive physical contact was operationalized as instances of touching and/or assisting another person in a helpful or supportive manner (e.g., hugging, holding hands, helping someone who has fallen) which could be recorded on the checklist, while positive
verbal interaction was operationalized as instances of words or sounds directed toward another person in a helpful or supportive manner (e.g., "C'mon," "Good job," "Let me help," "We need you").

In addition to the quantitative data collection, qualitative methods were used in the belief that field observations and interviews would yield different, yet important data from quantitative methods. This data would provide possible explanations for the children's interactions. Rich and descriptive narratives did result from this type of data collection (e.g., Johnny was jumping up and down and smiling while he was playing the game; then he hugged the child to his right).

Pilot Study: 1988

In order to evaluate the Prosocial Behavior Interaction Checklist, continue field practice of qualitative research methods, and begin an examination of cooperative games and their effects on children, a pilot study was conducted in 1988. This study investigated the effect that games with cooperative and competitive goal structures had on the prosocial behavior interactions of young children.

Twelve kindergarten children were selected as subjects of the study and participated in a games program two times per week for 40 minutes each session over a three-week
period. Five pairs of games sharing a common goal were selected with each pair of games possessing both a cooperative goal structure and competitive goal structure version. An example of a paired game would be Musical Chairs. In the cooperative version, the chairs are eliminated, and the goal of the game is to have all players sitting on one chair; whereas in the competitive version, the players and chairs are eliminated and the goal of the game is to be the last player sitting in a chair.

Each week, two competitive games were played and data collected on Monday; and on the following Thursday, the two cooperative games were played and data collected. Two trained observers watched six different children for a recurring 30-second interval each, throughout the study, with behaviors being recorded using the behavior interaction checklist. Observations showed a higher incidence of prosocial behavior exhibited by children during the cooperative structured games \((n = 228)\) when compared to the competitively structured games \((n = 2)\); and, through observation and interviews, the children were found to respond favorably to cooperative games (Grineski, 1989).

From this pilot study, the following information was learned:

1. In order to better understand behavior interactions, behaviors should be coded as either
goal-related (i.e., required for participation) or nongoal-related (i.e., outside the function of the activity).

2. Negative behaviors occurring during the game should also be recorded for a better understanding of games and their effect on children.

3. Qualitative research methods provided data rich and descriptive. This type of information aids in understanding children and game participation in a manner different from information gained through the use of quantitative research methods (e.g., recording frequency of behavior interaction). This type of understanding includes the different types, levels, and extent of interactions and emotion associated with these interactions. Together, these methods supply a more complete view of children's interactions during game participation.

4. The behavior interaction checklist was found to be reliable for the behaviors observed. Inter-rater reliability was found to be 90% on three separate occasions during the 1988 pilot study using the index of reliability formula (i.e., agreements divided by agreements plus disagreements times 100 equals percent of agreement) as reported by Hall (1971).

5. Cooperative games affect the prosocial behavior interactions of young children.
Phase III: Selected Research Design

Revised Behavior Interaction Checklist

Incorporating the ideas developed through the pilot study, the final behavior interaction checklist was developed (Appendix E). The five categories of this checklist for which children's behavior was coded include:

1. **Positive Physical Contact**: Physical interaction that demonstrates help, support, assistance, or encouragement toward another child (e.g., hugging, holding hands, patting a back).

2. **Positive Verbal Encouragement**: Positive words or sounds that demonstrate help, support, assistance, or encouragement toward another child (e.g., "I'll help you," "Thanks," "Are you all right?").

3. **Goal-Related Cooperative Behaviors**: Physical and/or verbal cooperative behaviors that are a function of the game and a requirement for successful participation.

4. **Negative Physical Contact**: Physical interactions that demonstrate a lack of help, support, assistance, or encouragement toward another child (e.g., hit, push, throw object at another child).

5. **Negative Verbal Interaction**: Words or sounds that demonstrate a lack of help, support, assistance, or encouragement toward another child (e.g., "You can't do that," "That's no good").
Games Selection

In attempting to develop a games curriculum for the desired research project, 30 cooperative games reported to be appropriate for young children were selected from work by Orlick (1978), Deacove (1974), and Dauer and Pangrazi (1986). Games created and modified by this researcher were also used. These games were analyzed through the use of a researcher-designed game analysis checklist (Appendix F) to determine if they would be developmentally appropriate for young children and result in high levels of interdependence (i.e., cooperation). This checklist was based upon work completed by Morris (1980), Riley (1975), and Grineski (1989). The game analysis checklist examined cognitive demands, structural components (e.g., equipment), and potential for eliciting prosocial behavior interaction. In addition to the games analysis, the 30 games were played with two groups: (a) twelve 3- to 4-year-old children without impairments and (b) thirteen 4- to 5-year-old children with and without impairments. Seventeen games were selected for the study that satisfied the following criteria:

1. Minimal cognitive demands;
2. High potential to elicit prosocial behavior interactions;
Research Design

The research design that evolved from the previously reported work involved three conditions, with each condition lasting three weeks and including four 30-minute sessions per week. **Condition 1** was the children's regularly scheduled gross motor free play time; **Condition 2** was the cooperative games intervention program; and **Condition 3** was the regularly scheduled gross motor free play time following intervention. The subjects were observed and behaviors recorded using the Revised Behavior Interaction Checklist over the three conditions.

The regularly scheduled group play time allowed the children to interact with a variety of materials (e.g., jungle gym, balls) and peers. Seventeen cooperative games were used in the cooperative games intervention program (Appendix G). Two to three games were played each day, as noted by the cooperative games schedule (Appendix H). A licensed physical education teacher who had not had contact with the children prior to the study led all group play and games sessions. This teacher completed a 30-minute observation of the researcher teaching cooperative games and two 30-minute practice cooperative games teaching lessons.
prior to the study. These practice observations and teaching lessons occurred with a group of twelve 4-year-old children from a church-affiliated preschool.

Data Collection and Treatment

Quantitative Data Collection

Quantitative data were collected by three early childhood education student teachers and one physical education teacher who had completed three 30-minute training sessions conducted by the researcher. Training sessions included a presentation on the scope and sequence of the study, discussion of and practice with the Behavior Interaction Checklist, and question/answer sessions regarding problems or concerns. Each data collector was responsible for observing and recording behaviors of four children. Each child was observed and behaviors recorded for recurring 30-second intervals. Two inter-rater reliability checks per condition \( n = 6 \) resulted in a mean inter-rater reliability of 93% for the four observers.

Quantitative Data Analysis

Descriptive analysis and frequency histograms were used to report differences in all behavioral categories for each child and group between Condition 1 and Condition 2, between Condition 2 and Condition 3, and between Condition 1 and
Condition 3. Descriptive analysis included the numerical range and mean scores for each subject across each behavioral category. Numerical group totals for each behavioral category and cumulative positive and negative categories were also provided. The frequency histograms displayed group totals for each behavioral category and cumulative totals for positive and negative categories. Because of the inclusion of qualitative research methods and limited number of subjects, these quantitative methods were deemed appropriate.

Qualitative Data Collection

A qualitative examination was also conducted using both field observations of children's interactions and teacher interviews for purposes of gaining insight into how and why the children behaved as they did during the cooperative games intervention program. Field entries were made based upon interactions demonstrated by the group and an individual child. The individual child was selected based upon teacher recommendation of a child who: (a) exhibited normal gross motor development, (b) was neither a dominating leader nor a lagging follower, and (c) exhibited age-appropriate social interaction skills. Observations of one handicapped child were also made. This child was selected
because his frequent attendance allowed ample opportunity for data collection.

During the three-week games program, the group teacher and games teaching instructor were interviewed by the researcher to gain insight into their perspectives regarding games and their effect on young children. Open-ended questions that encouraged perspective-taking and personal opinion regarding young children and games were asked.

**Qualitative Data Analysis**

Qualitative data were analyzed with relation to the following themes in order to gain more descriptive analysis of the relationship between game characteristics and the resulting types and levels of behavior interactions for the game participants. These themes were derived from the game analysis, the behavior interaction checklist, and published research by Orlick (1976, 1983), and are as follows:

1. Player participation
2. Player to player interactions
3. Prosocial behavior interactions
4. Negative social behavior interactions
5. Goal-related behaviors
6. Cognitive skill demands
7. Motor skill demands
Information gained from the theme examination was analyzed to examine the nature, degree, and extent of interactions occurring in games as a result of specific game characteristics.
CHAPTER 4

ANALYSIS OF DATA

The purpose of this study was to determine the extent to which cooperative games promote prosocial behavior interactions of young children with and without impairments and the degree to which they can be used for successful integration.

Data from this study were analyzed in two ways, using both a descriptive analysis with frequency histograms and qualitative analysis. The quantitative analysis was used to report differences in all behavioral categories for each child and play group between Condition 1 (i.e., regularly scheduled free play) and Condition 2 (i.e., cooperative games intervention program), between Condition 2 and Condition 3 (i.e., regularly scheduled free play), and between Condition 1 and Condition 3. Qualitative data (i.e., field entries of game play and teacher interviews) for a particular nonhandicapped child, handicapped child, and the play group's interactions during games were analyzed to better understand the impact of a game on the prosocial behavior interactions of young children.
Comments in this chapter will be limited to reporting data generated by the study. Chapter 5 will provide the summaries and interpretations for this data reporting.

Descriptive Analysis and Frequency Histograms

Positive Physical Contact

For purposes of this study, positive physical contact has been defined as physical interactions that demonstrate help, support, assistance, or encouragement toward another child, such as hugging or holding hands. Incidence of positive physical contact during Condition 1 revealed a range of 0-5 and a mean of 2.56 interactions per child; for Condition 2, a range of 0-10 and a mean of 4.25 interactions per child; and for Condition 3, a range of 0-4 and a mean of 2.12 interactions per child. Table 1 shows the incidence of positive physical contact for each child across Conditions 1, 2, and 3. Group totals for positive physical contact across the three conditions yielded the following data: Condition 1--41, Condition 2--68, and Condition 3--34. Figure 1 depicts differences for positive physical contact for the play group across Conditions 1, 2, and 3.

Eighty-seven percent of the children showed more positive physical contact during Condition 2 (i.e., cooperative games program) than during either Condition 1 or Condition 3 (i.e., regularly scheduled free play).
Table 1  
**Incidence of Positive Physical Contact**

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<td><strong>Condition 3</strong></td>
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</tr>
<tr>
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</tr>
<tr>
<td><strong>Range</strong></td>
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<td>0-5</td>
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<tr>
<td><strong>Mean</strong></td>
<td>2.56</td>
<td>4.25</td>
<td>2.12</td>
</tr>
<tr>
<td><strong>Group Total</strong></td>
<td>41</td>
<td>68</td>
<td>34</td>
</tr>
</tbody>
</table>

*Children with handicaps (CCCPP).

Three of the four handicapped children participating in the study exhibited positive physical contact \((n = 10)\) only during Condition 2. Subject data appear in Table 1. Group totals revealed that Condition 2 was associated with the highest rate of positive physical contact \((n = 68)\). A 39% \((n = 27)\) increase in positive physical contact from
Condition 1 to Condition 2 and a 50% (n = 34) decrease in positive physical contact from Condition 2 to Condition 3 are noted in Figure 1. A 17% (n = 7) decrease in interactions is reported when comparing Condition 1 to Condition 3.

![Figure 1. Incidence of positive physical contact. A = Condition 1, B = Condition 2, and C = Condition 3.](image)

**Positive Verbal Interactions**

For purposes of this study, positive verbal interaction has been defined as words or sounds that demonstrate help, support, assistance, or encouragement toward another child.
Incidence of positive verbal interactions during Condition 1 revealed a range of 0-23 and a mean of 7.12 interactions per child; Condition 2, a range of 0-9 and a mean of 1.75 interactions per child; and Condition 3, a range of 0-10 and a mean of 2.87 interactions per child. These data appear in Table 2.

Table 2

Incidence of Positive Verbal Interactions

<table>
<thead>
<tr>
<th>Children</th>
<th>Condition 1</th>
<th>Condition 2</th>
<th>Condition 3</th>
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</tr>
<tr>
<td>16*</td>
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</tbody>
</table>

Range: 0-23 0-9 0-10
Mean: 7.12 1.75 2.87
Group Total: 114 28 46

*Children with handicaps (CCCPP).
Group totals for positive verbal interactions for Condition 1 were 114; for Condition 2, 28; and for Condition 3, 46. Figure 2 displays differences in positive verbal interactions for the play group across the three conditions.

Table 2 shows that 20% ($n = 3$) of the subjects demonstrated increases in positive verbal interactions when Condition 2 is compared to Condition 3. The four handicapped children did not exhibit any instances of positive verbal interactions during Conditions 1, 2, or 3.

Figure 2. Incidence of positive verbal interactions. A = Condition 1, B = Condition 2, and C = Condition 3.
As noted in Figure 2, play group totals show a 75% (n = 86) decrease in interactions when comparing Condition 1 and Condition 2, and a 39% (n = 18) increase in interactions between Condition 2 and Condition 3. A 60% (n = 68) decrease in interactions is noted when comparing Condition 1 and Condition 3.

**Goal-Related Cooperative Behaviors**

For purposes of this study, goal-related cooperative behavior has been defined as physical and/or verbal behavior that results as a function of an activity and is necessary for participation (e.g., holding hands in Hula Hoop Circle). Incidence of goal-related cooperative behaviors during Condition 1 revealed a range of 0-15 and a mean of 5.12 interactions per child; Condition 2, a range of 12-46 and a mean of 23.18 interactions per child; and Condition 3, a range of 0-19 and a mean of 9.12 interactions per child. Data for all subjects appear in Table 3. Group totals for goal-related cooperative behaviors were 82 for Condition 1, 371 for Condition 2, and 146 for Condition 3. Differences in goal-related cooperative behaviors for the play group across the three conditions are found in Figure 3.

All subjects exhibited more positive goal-related cooperative behavior interactions during Condition 2 (n = 371) when compared to Condition 1 (n = 82). A 289 total
change in goal-related cooperative behaviors occurred between the three conditions. The mean change in these interactions for the subjects was 18.06. A 225 total change in goal-related cooperative behaviors occurred between Condition 2 and Condition 3. The mean change in these interactions for the subjects was 14.06.

Table 3

Incidence of Goal-Related Cooperative Behaviors

<table>
<thead>
<tr>
<th>Number of Interactions</th>
</tr>
</thead>
<tbody>
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<td>Children</td>
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<td>16* 1</td>
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</table>

Range 0-15 12-46 0-79
Mean 5.12 23.18 9.12
Group Total 82 371 146

*Children with handicaps (CCCPP).
The four handicapped children in the study demonstrated a net gain of 61 goal-related cooperative behaviors (mean = 15.0) between Conditions 1 and 2. A decrease of 88% (n = 53, mean = 13.2) was noted when comparing Condition 2 and Condition 3 for the same children (Table 3). In comparing the group totals for Condition 1 (n = 82, mean = 5.12) with those of Condition 3 (n = 146, mean = 9.12), a 44% increase in goal-related cooperative behaviors can be noted in Figure 3.

Figure 3. Incidence of goal-related cooperative behaviors. A = Condition 1, B = Condition 2, and C = Condition 3.
Negative Physical Contact

For purposes of this study, negative physical contact has been defined as physical interactions that demonstrate a lack of help, support, assistance, or encouragement toward another child, such as hitting, pushing, or throwing an object at another child. Incidence of negative physical contact during Condition 1 revealed a range of 0-12 and a mean of 3.68 interactions per child; Condition 2, a range of 0-7 and a mean of 2.31 interactions per child; and Condition 3, a range of 0-2 and a mean of 1.0 interactions per child. Table 4 reflects this data.

Group totals for negative physical contact were 59 for Condition 1, 37 for Condition 2, and 16 for Condition 3. Figure 4 displays differences for the subjects for negative physical contact behavior interactions across the three conditions.

Seventy-five percent of the subjects demonstrated a decrease in negative physical contact when Condition 1 is compared to Condition 2, and when Condition 1 is compared to Condition 3; 50% of the subjects showed a decrease in negative physical contact when Condition 2 is compared to Condition 3. The reader is referred to Table 4.
### Table 4

**Incidence of Negative Physical Contact**

<table>
<thead>
<tr>
<th>Children</th>
<th>Condition 1</th>
<th>Condition 2</th>
<th>Condition 3</th>
</tr>
</thead>
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<tr>
<td>16*</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Range** | 0-11 | 0-7 | 0-2
**Mean**  | 3.68 | 2.31 | 1.00
**Group Total** | 59 | 37 | 16

*Children with handicaps (CCCPP).

A continual decrease of negative physical contact for the play group is noted in Figure 4 for Condition 1 (n = 59; mean = 3.68), Condition 2 (n = 37; mean = 2.31), and Condition 3 (n = 16; mean = 1.0). The results of the handicapped children in this category present a discernible pattern.
Negative Verbal Interactions

For purposes of this study, negative verbal interaction has been defined as words or sounds that demonstrate a lack of help, support, assistance, or encouragement toward another child. Incidence of negative verbal interactions during Condition 1 revealed a range of 0–9 and a mean of 4.81 interactions per child; Condition 2, a range of 0–4 and a mean of 1.06 interactions per child; and Condition 3, a range of 0–3 and a mean of 1.25 interactions per child.
Table 5 shows the incidence of negative verbal interactions for the subjects across the three conditions. The group totals for negative verbal interactions for Conditions 1, 2, and 3 were 77, 17, and 20, respectively. These data are depicted in Figure 5. Condition 2 was associated with the lowest incidence of negative verbal interactions (n = 17).
Figure 5. Incidence of negative verbal interactions. A = Condition 1, B = Condition 2, and C = Condition 3.

The following comparisons are represented in Table 5. Of the 16 children participating in the study, all 12 nonhandicapped children showed a decrease in negative verbal interactions when comparing Condition 1 (n = 77; mean = 4.81) to Condition 2 (n = 17; mean = 1.06). When comparing Condition 2 (n = 17; mean = 1.06) with Condition 3 (n = 20; mean = 1.25) for the same children, a minimal negative verbal interaction gain of 15% (n = 3) was reported.
All of the children exhibiting negative verbal interactions demonstrated a 74% (n = 57) reduction in negative verbal interactions from Condition 1 to Condition 3. The handicapped children participating in the study did not exhibit any negative verbal interactions during Conditions 1, 2, or 3.

**Total Number of Positive and Negative Behavior Interactions**

The total number of positive behavior interactions (i.e., positive physical contact, positive verbal interactions, and goal-related cooperative behaviors) for the play group were: Condition 1--237; Condition 2--467; and Condition 3--226. For the same children, the total number of negative behavior interactions (i.e., negative physical contact and negative verbal interactions) were: Condition 1--136; Condition 2--54; and Condition 3--36. These data appear in Table 6 and Figure 6.

The play group demonstrated an increase of 49% (n = 230) in positive behavior interactions when Condition 1 (n = 237) is compared to Condition 2 (n = 467), and a decrease of 53% (n = 250) positive behavior interactions when Condition 2 is compared to Condition 3 (n = 217). An 8% (n = 20) decrease in positive behavior interactions is noted when
Condition 1 is compared to Condition 3. These comparisons are noted in Table 6 and Figure 6.

Table 6

**Total Positive and Negative Behavior Interactions**

<table>
<thead>
<tr>
<th>Number of Interactions</th>
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<th>Condition 2</th>
<th>Condition 3</th>
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</thead>
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<td></td>
</tr>
<tr>
<td>Mean</td>
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<td>29.18</td>
<td>13.56</td>
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<tr>
<td>Group Totals</td>
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<td>467</td>
<td>217</td>
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<tr>
<td><strong>Negative Behavior Interactions</strong></td>
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<td></td>
</tr>
<tr>
<td>Mean</td>
<td>8.50</td>
<td>3.68</td>
<td>2.25</td>
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<tr>
<td>Group Totals</td>
<td>136</td>
<td>59</td>
<td>36</td>
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</table>

A continual reduction was noted when comparing the total negative behavior interactions from Condition 1 \( (n = 136) \) to Condition 2 \( (n = 54) \) to Condition 3 \( (n = 36) \). The play group demonstrated a 73% reduction in total negative behavior interactions from Condition 1 to Condition 3.

Qualitative Analysis

The qualitative analysis of this study focused on seven games selected by the researcher. Based on analysis of
Figure 6. Total positive and negative behavior interactions. A = Condition 1, B = Condition 2, and C = Condition 3.

Field notes through selected themes and teacher interview data generated from Condition 2, five games were selected that appeared to promote prosocial behavior, and two games were selected that had limited effect on prosocial behavior interactions. Seven questions, based upon the selected themes, served as criteria for selecting the games:
1. What was the nature of the player participation as it related to goal achievement?
2. Were player-to-player interaction demands of the game appropriate for the players?
3. What were the extent and level of prosocial behaviors interactions demonstrated by the players?
4. What were the extent and level of negative social behaviors demonstrated by the players?
5. What were the extent and level of goal-related cooperative behaviors demonstrated by the players?
6. What were the cognitive skill demands of the game?
7. What were the motor skill demands of the game?

Games that best and least satisfied these questions were then selected for the purpose of analysis and discussion. The games best satisfying the criteria were Hula Hoop Circle, Ouch Person, Bag the Bear, Big Turtle, and Fish Gobbler; the games least satisfying the same criteria were Partners and Blizzard.

A framework evolving from the qualitative analysis was used to present the data generated by children's interactions during game participation. This framework included a description of the game, analysis of the play group's interactions during the game, and an analysis of the interactions of the nonhandicapped child (hereafter called Susie) and the handicapped child (hereafter called Johnny)
during the game. Information gained from teacher interviews was also provided for purpose of analysis.

Games Analysis

Hula Hoop Circle

Description. Four children hold hands in a circle, facing in, with a hoop dangling on one pair of joined hands. The goal of the game is to move the hoop around the circle, passing each body through the hoop without letting go of joined hands.

Group analysis. Following a brief description and demonstration by the games instructor, the children were placed in groups of four, asked to join hands and make a circle with a hoop resting on a pair of joined hands. A handicapped child was placed in each group. Many of the children were wiggling about and appeared ready to play the game. During the first few minutes of game play, there was minimal physical and/or verbal interaction among the children, although the children played appropriately. As the children began to play more skillfully (i.e., pass the hoop around the circle smoothly and quickly), some of the players began to jump up and down and move their arms in a helping manner in order to move the hoop around the circle faster. This was particularly true of one group of children.
The children in the corner of the play space were all jumping up and down so vigorously that one child fell down. After this child stood up, the circle was connected by joined hands, and the children raised and lowered their arms to pass the hoop around the circle quickly. When the hoop was passed around the entire circle, one child exclaimed, "We did it!"

Although not all groups shared this particular group's fast-paced and enthusiastic style of play, they did play according to the directions and were actively involved during the time allowed for this game. All four of the groups were moving the hoop around the circle by raising and lowering their arms. Observations revealed that one group completed five cycles of the game without error (i.e., dropping the hoop from joined hands).

Levels of child-to-child physical and verbal encouragement varied from group to group and from player to player. An example of this encouragement during the game is noted by the following description.

Mark watched the children step in and out of the hoop while raising and lowering their joined hands. As the hoop got closer to him, he said, "Let's go," "Here, I'll help." Lowering, then raising his joined hands, he did his part to continue the process of passing the hoop.

Observations revealed several further instances of encouragement and support for group members, like the one witnessed with this group.

After the group completed the task of passing the hoop around the circle, two children dropped their
hands and gave each other a hug. When the group joined the circle, these players displayed looks of increased concentration.

One particular group worked very hard at the skill of hoop passing and became quite skillful, and subsequently, successful at this process, as noted in the following description.

The group with the red hoop moved their hoop in and out of the bodies quickly. With hands held tight and arms raising/lowering in unison, they concentrated on the moving hoop. Calls like "Hurry" and "Let's go" were regularly made by these children. Even the more difficult variations (e.g., backs to the center, standing on one foot, two players at a time) were accomplished successfully.

**Game interaction analysis: Nonhandicapped child.**

Susie's participation in the game included both compliant and playful behaviors. During the initial teaching of the game, she sat quietly and listened to directions, raised her hand to volunteer an answer, and then, when instructed, joined a group of three children to begin playing the game. Susie smiled and laughed as her group collectively passed the hoop around their bodies. She repeatedly said, "Easy, Easy" as her group played the game. However, when the groups were instructed to play the game with eyes closed, Susie said to the teacher, "Help us." The teacher assured Susie that her group could do it if they kept trying, and they did.
Susie was observed smiling and laughing on many occasions while playing the Hula Hoop Circle game.

While the hoop was being passed by the children in Susie's group, her laughter could be heard throughout the play space.

**Game interaction analysis: Handicapped child.** During the playing of the game, Johnny did not talk to other group members, although he did participate successfully after a few miscues (e.g., letting go of hands). In the early stages of the game, he watched the other players to see what they were doing or getting ready to do.

Although Johnny dropped the hoop by letting go of his partner's hand, nothing was said by his playmates. The hoop was picked up, hands were joined, and the game quickly continued. After that incident, Johnny watched the hoop travel around the group. As time went by, Johnny was able to lower and raise his arms to receive and pass on the hoop.

Although Johnny appeared to have difficulty maintaining a standing balance, this was not evident during the game, since the players, by holding onto each other's hands, were in fact physically supporting each other.

**Ouch Person**

**Description.** This is a group tag game utilizing three different participation roles: (a) Ouch Person tries to tag (ouch) the target players; (b) target players attempt to avoid being tagged by the Ouch Person, and if they are tagged, they must stand still, holding the tagged (ouched)
body part and say "Ouch"; (c) helper players place a band-aid (e.g., masking tape strip) on the target player's tagged (ouched) part so they are once again free to run.

Group analysis. As soon as the games teacher completed the instructions, created the necessary groupings (i.e., Ouch Person: games teacher; target players: seven children; and helper players: seven children, each wearing a red sleeveless jersey with eight strips of masking tape attached to the front), and reinforced safety precautions, the game began. The four handicapped children were divided evenly between the target and helper player groups. The target players ran from the Ouch Person as quickly as possible, sometimes falling down while making direction changes. Although children helped each other to get up from falls, this falling was not viewed negatively, as players were actively involved in carrying out their respective roles. Whenever a target player was "ouched," a helper player would quickly be at the site with a band-aid.

The players seemed to enjoy the different participation roles, anticipation associated with running, avoiding, ouching, and helping, and the quick pace of the game, as noted in the following observation.

The play space was filled with activity and laughter as the children acted out their roles. Many times, when the Ouch Person came close to a target person, the laughter would turn to screams of enjoyable worry. In one instance, after the helper player had
placed a band-aid on the ouched shoulder of a target player, the helper player shouted, "Go, Go, or he will get you again!"

The children maintained this excitement level throughout the game.

Game interaction analysis: Nonhandicapped child.

During the time allotted for the Ouch Person game, Susie had opportunities to play both the target and the helper player roles. While in the role of the target player, she was tagged six times; she helped or placed a band-aid on eight different children while in the helper role. This amount of activity required continuous movement from Susie, which she appeared to enjoy.

Susie ran to a tagged player, placed the band-aid on his shoulder, and ran off looking for another ouched player. She seemed to understand the idea of the game, as she was always looking about the play space for children who required a band-aid. Throughout the activity, Susie smiled as she played.

Susie's level of enjoyment, as noted by increases in smiles and laughter, grew as a result of being chased by the Ouch Person. She would be moving throughout the play space until noticed by the Ouch Person, then scream and run to avoid being tagged.

Although Susie did run to avoid being tagged, the anticipation of the chase and then finally getting caught seemed to bring her pleasure, as observed in the following incident.
When Susie noticed the Ouch Person chasing her, she began to run quickly throughout the play space. When the Ouch Person realized her heightened level of anticipation, he focused his catching efforts on Susie, which elevated her laughing, smiling, and anxiety. Upon the Ouch Person's reaching Susie and touching her shoulder, Susie collapsed on the floor and said, "You got me!"

Although not all of the children were as overtly expressive in their reactions as Susie during the Ouch Game, they all played according to the rules, were on task, and participated enthusiastically. This was particularly evident with one group of children.

A group of helpers moved throughout the play space looking for "ouched" players. Upon reaching a target player who was holding his elbow, this boy exclaimed, "It's here on my arm!" As soon as the directive was given, a band-aid was placed on the ouched part, and they were all off running.

Game interaction analysis: Handicapped child.

Initially, Johnny ran cautiously with his fellow target players throughout the play space. While he moved, he was continually looking around at the action that surrounded him, and as the game progressed, he moved in a more confident manner. The first time Johnny was ouched by the Ouch Person, he was immediately helped by a helper player. On the next four occasions he was tagged, he never waited more than a few seconds to be helped. The last time he was tagged, two helper players simultaneously placed band-aid strips on his ouched elbow. During Johnny's turn as a helper player, he helped five different children with their
ouched body parts, although the first time he was prompted by a fellow helper player, "Over there, he needs one."

While Johnny was running throughout the play space, he would occasionally lose his balance and fall down. This did not seem to make much difference to the other players, as they were busy running and playing the game.

Throughout most of the game, Johnny did not smile or engage in much laughter, although he was actively involved in the game. On one occasion, as the following observation reports, he did exhibit an outward sign of enjoyment.

Johnny had been running continuously, looking for someone who needed a band-aid. He spotted a person in the corner of the play space holding her wrist. Johnny ran to her and placed the band-aid on her wrist. She began smiling and laughing, and then ran off. Johnny stood still, smiled, and then ran slowly towards another player who had just been tagged.

**Bag the Bear**

**Description.** This is a partner game based on a scenario of circus bears escaping from their cages. The children are told a story of how the circus bears escaped from their cages (cardboard boxes), are hiding throughout the circus grounds (stuffed animals placed around the play space previous to the lesson), need to be captured (placed in a paper bag), and returned to their cages (boxes) before feeding time. To play, children in pairs and jointly holding a bear bag move throughout the play space looking
for hiding bears. When a bear is found, the children put it in their bag and return it to a bear cage. Various locomotor skills can be incorporated during the searching and returning phases of the game. The game continues until the children have returned all the circus bears to their cages.

**Group analysis.** The children sat quietly as the games teacher told the story of the circus bears. At the end of the story, he asked, "Will you help get the bears?" and the children shouted, "Yea." The children were then divided into eight pairs, with each of the four handicapped children having a nonhandicapped partner. After a pair of children received a bear bag, they began searching for the bears.

As the pairs of children moved throughout the play space, calls were heard such as, "We got one," "Over there," "Hurry, let's get another." On three occasions, the games teacher had to remind players that they only could bag one bear at a time, or as the games teacher said, "They will get squished."

While the children played the game, some of them began to move in unison and exhibit a smooth, two-person run. In addition, instances of sharing turns for snatching the bear from its hiding place and placing it in the cage were observed.
As they ran, one partner said, "You put it in and I'll put it in the bag, okay?" to which the other child replied, "Okay!"

During the time allotted for the game, the children were actively engaged in searching, collecting, and returning bears to their cages.

**Game interaction analysis: Nonhandicapped child.**

Susie and her partner took off with their bag after the directions were given and last minute questions answered by the games teacher. As they were looking for bears, Susie's partner let go of the bag and ran off into the play space. Susie followed, found her partner, and held the bag out to her partner. The partner grabbed the bag, and together, they went running and looking for bears. During a five minute time period, Susie and her partner found and returned eight bears to their cages. While these eight bears were collected and returned, Susie and her partner held the bag tightly, moved at about the same pace, and smiled and laughed when the bears were dumped into their cages. As the eighth bear was being dumped into the cage, Susie's partner said, "There goes another one. Let's try some more!"

**Game interaction analysis: Handicapped child.** Johnny and his partner moved around the play space looking for bears. Although Johnny could not move as quickly as his partner, no indications of nonacceptance (e.g., body language, words of displeasure) were given from his partner.
The first bear was seen by Johnny, who pointed to the five-foot plastic indoor basketball goal and hoop located in the corner of the play space. The boys ran over to this piece of equipment and began shaking the goal (first the partner, then Johnny) to dislodge the bear that was resting in the goal net. When the bear fell to the ground, Johnny held the bag open, and the partner placed the bear inside the bag. Together, they carried the bag to the box, dumped the bear into the box, and ran off to find more bears. As they ran, the partner said, "Let's get more."

After finding the first bear, these boys found four more bears, for a total of five bears for the game. Although Johnny let go of the bag in a few instances, with a prompt from the partner of "Let's go," Johnny picked up the bag and resumed play.

**Big Turtle**

**Description.** Small groups of children on their hands, knees, and toes attempt to move a mat (turtle's shell) that is placed on their backs. The required movement pattern is a collective and simultaneous creeping action. The goal of the game is achieved when the children have moved their mat (turtle's shell) a specified distance (e.g., ten feet).

**Group analysis.** The children were divided into two groups of eight with two of the handicapped children placed
in each group. After an explanation and demonstration of the game by the games teacher, the children assumed the hands, knees, toes position while touching sides with the person next to them. The games teacher placed a tumbling mat on their backs and reminded them to move slowly and together, "just like a big turtle."

As one group began to move, giggling and laughing could be heard from underneath the mat. After the children had moved about three feet, the mat began to slide off the children's backs. The games teacher walked next to the children and pulled the mat back to a center spot on the backs of the children. After a few reminders about togetherness from the games teacher and four trial attempts, the children were able to move the mat a distance of ten feet without the mat falling off their backs. On the last turn of the game, the following comments were made by the children: "That's too fast"; "We're almost there"; "Slow down"; "Come closer"; "Yea! We made it!" When the children reached the ten foot marker, they jumped up from the ground, threw the mat off their backs, and smiled as they ran to the games teacher.

**Game interaction analysis: Nonhandicapped child.**

Susie assumed her spot in the line of children as the mat was placed on her group's backs. There were no instances of Susie's not being under the mat, either because she moved
too slowly or too fast. She appeared to stay in her spot while the turtle was moving. Whenever the turtle reached its destination, Susie would jump up and run back to the beginning point.

Game interaction analysis: Handicapped child.
Initially, Johnny appeared anxious about the game, but after watching the teacher-directed demonstration and playing the game a few times, he seemed to be more relaxed. Johnny always assumed a spot near the edge of the line of children for each of the game trials. Although he did his part to help move the turtle, on occasion he was not totally covered by the mat. After the last game, he had a satisfied look on his face.

Fish Gobbler
Description. This is a group game based on an ocean theme in which the participants collectively respond to commands made by a leader (i.e., Fish Gobbler). Two examples of commands are "Fishnet" (all players join hands) and "Sardines" (all players lie close together on the floor).

Group analysis. Following the explanation and demonstration by the games teacher, the children lined up at one end of the play space. The first two commands, "Ship" and "Shore," required the players to run to the opposite end
of the play space (i.e., Ship), change directions and run back to the starting point of the play space (i.e., Shore). As the children responded to these commands, they smiled and laughed as they ran. Although there were a few instances of children stumbling and running in the wrong direction, these miscues were easily remedied. The group appeared to be focused on the game, not on these minor miscues.

Upon hearing the command "Fishnet," the children quickly ran to the middle of the play space and joined hands. One child, who was standing outside the circle, was encouraged by his peers to join the group.

The circle was rapidly forming, as hands were being held and arms pulled. A call was made to a boy standing about five feet from the circle by one of the circle players (i.e., "Over here, c'mon!"). When this boy heard the call, he looked at the other children and then joined the circle.

The game proceeded using three commands of the game--Ship, Shore, Fishnet, Ship, Shore--until all the players responded in an appropriate manner.

When the Fish Gobbler called, "Sardines," some of the children stood still, while the remaining children ran to the center of the play space and laid on the floor so they were all touching. The standing children, seeing this action, quickly ran to the group and snuggled in with the other children. To this response, the games teacher said,
"Wow, you sure are squished!" The game continued with the four previous commands used by the Fish Gobbler.

"Submarine" was the next and last command used in the game. The games teacher instructed all the children to lie on the floor in a straight line, hold their noses with one hand, and while keeping one foot flat on the floor, raise the other foot into the air. He told the children this was their periscope so they could see where in the ocean they were going. Many of the children laughed at that explanation. The games teacher told them that all the submarines had to be touching, and to look for Brian, who was to be the first submarine in line.

As the game proceeded, the children laughed and smiled as they responded to the five different commands. The laughter was the loudest when they made the sardines.

Arms and legs were wiggling about as the children worked to assume and remain all squished together. When the games teacher asked, "Can you squish even tighter," a roar of laughter and calls of "Okay" were made as the children rolled up onto each other in an attempt to take up less space.

**Game interaction analysis: Nonhandicapped child.**

While responding to the Fish Gobbler's commands, Susie was in constant motion, running back and forth (i.e., Ship and Shore), lying close to her peers (i.e., Sardines), holding hands in a circle (i.e., Fishnet), and making the submarine, which appeared to be a favorite.
Susie ran to Brian, who was the submarine leader, and quickly assumed her position. As she grabbed her nose, she said to the boy in back of her, "Scoot up so we're touching!" When the Fish Gobbler called, "Periscopes up," Susie raised her leg and began giggling and wiggling.

**Game interaction analysis: Handicapped child.** Johnny watched the other children during the game. Moving and responding a little slower than many of the children, he usually ended up in the right spot at the right time.

On a few occasions, Johnny would make a mistake on a command, but by watching what the other children were doing or, in one instance, when verbally prompted by a peer, "Raise your leg," he responded correctly.

On several occasions during the game, Johnny would smile when the group joined hands for the fishnet, lay close together for sardines, or assumed the submarine position.

**Partners**

**Description.** This game emphasizes partner movement skills designed to achieve the goal of mimicking movements. To begin the game, each player moves through the play space and, on the command "Partners" finds a partner. If a child is without a partner, he/she is instructed to find the game teacher, who will assist him/her in finding a partner. When the children are paired, each assumes one of two roles, leader and follower. During a timed period of 30 seconds, the follower must perform whatever movement the leader initiates. At the end of the 30 seconds, the command of
"Go" is given, and the children leave their partners and run individually until the command "Partners" is made, and the process is repeated.

**Group analysis.** As the children listened to the directions and watched a demonstration of the game, some of them appeared confused.

Seven of the children had puzzled facial expressions while the directions were being given. These children didn't move or talk to others; they just sat still, looking anxious.

When the game began, the children moved around the play space. When the command "Partners" was given, four pairs of children formed quickly, while the remaining eight children, including the four children with handicaps, required both physical and verbal teacher prompts to accomplish the same task, as reported below.

Five girls and three boys ran to each other on the command of "Partners." They appeared to anticipate the command and search one another out from the group. The remaining players stood and watched the other children. With encouragement from the teacher, another two pairs of students were joined, leaving four students standing alone. The teacher, noticing this, put his hands on their shoulders and said, "C'mon over here and you can all be partners."

When the eight pairings (i.e., partners) were completed, the children were to decide who would lead and who would follow; then the leader would move in any fashion around the play space while being mimicked by the follower. This action resulted in confusion for four pairs of players.
Two players stood and looked at each other until the teacher decided that Billy would be the leader. Although Billy was the leader, he was not sure of what to do. After waiting a few seconds, his partner said, "Do something!" When Billy didn't do anything, his partner ran off looking for some action.

This scenario occurred often for some of the children. For pairs of friends, however, role delegation was quick, as was the decision regarding the leader's movement skills. This was particularly true in the case of Jamie and Mary.

Jamie said, "I'll lead," and Mary said, "Okay!" Jamie began skipping around the play space while waving her arms freely, followed by Jamie. The skipping changed to running and then to standing still and making arm circles. All of the actions were mimicked by Jamie.

These girls played the game with a high level of skill.

During the first ten minutes of the game, there were many instances of players standing alone or next to another player and looking confused. This was especially true of the handicapped children. The games teacher, noticing this situation, called the children into the center of the play space and revised the original directions. He told them that when they found a partner, they were to shake hands with this person, in order to make sure they both knew they were partners together. In addition, the children were instructed to use the tallest person to be the leader and to choose some movement skill that is used by an animal for the leading-following portion of the game. After a brief demonstration of the revised ideas, the children began
playing. This different approach seemed to eliminate some of the previous confusion regarding partner selection and role differentiation.

In the corner of the play space, a pair formed and shook hands. Eric said, "I'm taller. You do what I do." And so, his partner imitated a bunny jumping and horse galloping.

Although this reteaching helped children, four handicapped children and two nonhandicapped children continued to look confused and anxious. The games teacher, observing this situation, asked these six children to be his partner and play the game with him. They seemed to accept this invitation and responded to his idea.

"C'mon over here." "Okay." "You do what I do." The children ran as they followed the teacher throughout the play space.

After this incident, the games teacher looked for these players and provided the necessary intervention (e.g., facilitating handshake) which resulted in these children participating in the game.

**Game interaction analysis: Nonhandicapped child.** Throughout the Partners game, Susie participated enthusiastically, depending upon the reaction of her partner. If her partner took an active role in decision making and moving, so did Susie, as observed in this situation with Megan.

Susie ran to Megan and said, "I'm bigger. Run!" So, off they went running throughout the play space.
If Susie's partner took a less than active role, Susie became disinterested or ran off to find some type of more appealing interaction, as she did in the following interaction with Doug.

Doug stood by Susie without saying a word. They looked at each other and waited for a few seconds. When nothing happened, Susie sat down for a few seconds, and then got up and ran off.

This situation was typical when the children had difficulty in negotiating partner selection and role differentiation.

**Game interaction analysis: Handicapped child.** During the playing of the game, Partners, Johnny experienced difficulty in finding a partner and carrying out his designated role. This difficulty resulted in Johnny's looking confused, appearing anxious, and being left by potential partners. He did experience successful participation when either the games teacher or a peer took direct action, such as physically prompting Johnny for partner selection or verbally prompting him for movement skills. At times, Johnny seemed to wander around the play space, unsure of what he should be doing during the game.

**Blizzard**

**Description.** Blizzard is a leader-follower game using a blizzard theme. Each member of a pair of children assumes one of two roles: the follower, blindfolded to simulate a
blinding snowstorm, and the leader, who holds the follower's hand and guides him/her over, around, on, and in/out of a variety of obstacles. The goal of the game is for the leader to guide the follower through the course without the follower's bumping into any of the obstacles.

Group analysis. When the children were in pairs, with each of the four handicapped children paired with nonhandicapped partners, the games teacher explained and demonstrated how to move through the course. Example verbal cues were also given to help those in leader roles (e.g., "duck your head"). In the instances when the leader exhibited initiative and was able to verbally or physically direct the follower, the participation was successful. This type of participation occurred about 50% of the time. When the leader, for whatever reason, was not able to initiate and direct the action, the consequences were usually not successful. On several occasions, after the follower bumped into obstacles, he/she would stop, let go of the leader's hand, and remove the blindfold. This resulted in a complete stoppage of the game. After the games teacher noticed this happening, he told the students to take off the blindfolds and try to move through the obstacles in larger groups, although their hands still had to be joined. The children did as instructed, and at one point, a group of six children were able to negotiate the seven obstacles without bumping
into them or letting go of hands. While the children were collectively moving through the course, the following observations were made.

Whenever one of the group got close to an obstacle, someone would say, "Watch Out!" Many times, tighter hand holding seemed to help the group stay together and maintain balance.

**Game interaction analysis: Nonhandicapped child.**

Susie responded in an appropriate manner when participating in either role of the game. However, when her partner did not perform his/her role duties, she left this person and went to find a new partner. Her participation level appeared to be dependent upon her partner's ability to provide skills necessary for goal achievement.

Susie responded positively to the revised version of the game. Indication of this is provided in the following observation.

"Hold tight," Susie said, as the group maneuvered through the course. When Susie and the five children completed the course, she jumped up and said, "Let's do it again."

**Game interaction analysis: Handicapped child.** Before the teacher revised the game, Johnny appeared unsure and anxious, regardless of his role. On one occasion while waiting for a turn, he left the line just before his turn came to play the game. When the teacher intervened and provided verbal and/or physical prompts, Johnny was able to better accomplish the tasks (e.g., leading or following)
associated with the game, but he still performed at a low level. After the revision, however, Johnny participated appropriately with his peers.

From his position in the middle of the line, Johnny watched the other children move through the course. Moving slowly, as all the children did in the line, he stepped over, ducked under, and went around the obstacles. He was able to negotiate the balance obstacles by holding tight to the hands of the children in front and behind him.

**Teacher Interview Analysis**

At the conclusion of Condition 2, the group teacher and games teacher were interviewed by the researcher. The teachers were told that the researcher was interested in their perspectives and ideas regarding young children and game participation. This information was then gathered by asking open-ended questions that encouraged perspective-taking and personal opinion. Examples of questions used for purposes of teacher interviewing included the following:

1. Tell me about your personal experience with games, as a participant and teacher.
2. What do you think about game participation for children?
3. Do you think there are benefits or harmful factors associated with game participation?
4. If so (to question 3), what are they? Why do you think that?
5. Are there certain kinds of games that promote certain types of interactions?

6. Is there anything else you would like to tell me about young children and game participation?

Depending upon the direction of the interview, these questions were used, modified, or changed to better reflect the mood of the interview.

When the play group and games teacher were interviewed, the following conversations took place. When the play group teacher was asked about game experiences as a participant and teacher, he responded, "I wish I could have played this type of game when I was young. I came from a competitive type background that affected me negatively ... socially as well as my self-concept."

The researcher, interested in more detail, asked for additional information, and was told that this teacher would have enjoyed doing things together with other children instead of against other children during his childhood. This teacher went on to explain how he perceived his children responding to the games: "The games helped the children see themselves as equals working together, rather than dealing with performance. ... It reinforced friendships. These kinds of games help teach skills for interaction, us not me. Children want to be part of a group ... be social ... want to share."
When asked to talk specifically about how he thought games help the children see themselves as equals, work together, and learn interaction skills, he noted that the games seem to cause children to interact as a result of the activity itself, not like in free play. "This is especially true with the handicapped children," he added.

When asked to explain more and to give examples, if he knew of any, the play group teacher reported that "the cooperative games helped the handicapped and nonhandicapped children to get to know each other because they play with each other during the game. Yesterday, for the first time in the ice cream dramatic play center, I watched a handicapped and a nonhandicapped child buying and selling ice cream. . . . This had never happened before."

The play group teacher did not know if this incident was in response to the games, but thought it possibly could have been. The play group teacher was asked to respond to the following questions: "Do you have any ideas on why some games might work well for promoting interaction? And, if so, do you have some examples?" He answered, "The games the kids liked and I liked and that seemed to cause lots of positive interaction were games that needed minimal skills, like Bag the Bear, Sticky Popcorn, Big Turtle. Games that were simple, easy, quick, fast paced were good, too, like Hugs . . . with little waiting time."
He also observed that the leader-follower games "didn't work so well because some of the kids aren't very good at leading, yet, like Partners and Blizzard. If you do this type of games, the teacher should make pairs to facilitate participation."

The play group teacher closed the interview with these thoughts about games, children, and interactions: "Cues are important. Like in Fish Gobbler, the children could see what to do . . . It is important for handicapped kids not to look different, to participate equally . . . to do the same kinds of things like . . . laughing. This might help the handicapped children to be perceived as normal because they laugh like the other children."

The games teacher noted that children can learn a lot from games if the teacher is knowledgeable about games and their effect on children. He felt that knowing and using cooperative games helped children interact, "even if a kid, like some of the handicapped kids, didn't know what or how to do something, they could just watch, like in Fish Gobbler. During the games, I saw kids helping other kids . . . like a peer teacher. This was good, because the teacher couldn't help all the kids at the same time."

The games teacher reported that certain game factors were associated with positive learning for children: "Being close during the game sure seemed to help get kids to
interact... like Big Turtle... they were all squished together laughing and having a great time. I think the Choo Choo game worked because there was so much auditory and visual cues... and touching... going from smaller groups helped, too."

When asked if he had noticed any changes in the children during the games program, he replied that it took the children a while to get used to the structured games instead of the free play, but that they enjoyed the games. And during the last few days, he noticed the children were sitting closer together and holding hands while he gave directions.

In summary, these interview data reflect the attitude, from the teachers' perspectives, that cooperative games can positively impact children's interactions. These teachers reported that through the structuring associated with cooperative games (e.g., required interaction, proximity, contribution to the goal), the potential for children to get along increased. Also, participation in these age-appropriate activities was linked to acceptance and more normalized relationships among handicapped and nonhandicapped children.
CHAPTER 5

SUMMARY AND INTERPRETATION, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

The purpose of this study was to determine the extent to which cooperative games promote prosocial behavior interactions of young children with and without impairments and can be used for successful integrations. Findings generated by preliminary field studies conducted by the researcher and published research by Orlick (1978, 1981a, 1981b) reveal that cooperative games are a viable method for positively affecting the prosocial behavior interactions of young children.

Sixteen children from the Moorhead State University Preschool between the ages of three and four years served as subjects for the study. Four of the children exhibited developmental delays of one to two years. A Behavior Interaction Checklist was used to record positive and negative physical contact and verbal interactions and goal-related cooperative behaviors. The children were observed and behaviors recorded over three conditions (i.e., Condition 1--regularly scheduled gross motor free play program, Condition 2--cooperative games intervention

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program, and Condition 3--regularly scheduled gross motor free play program after intervention), with each condition lasting three weeks and including four 30-minute sessions per week. All 36 sessions were led by a licensed physical education teacher. Each of four trained observers watched four children using a recurring 30-second time sampling per child. Quantitative data were collected to show the incidence of specific behavioral interactions for each child and the group and to allow comparisons in behavioral interactions occurring among the three conditions. Qualitative research methods (i.e., field observation of game participants and teacher interviews) were used to provide a more descriptive analysis of the relationship between game factors and the resulting types and levels of behavior interactions for the game participants.

This chapter will include summaries and interpretations of the findings generated by the quantitatively analyzed behavioral categories and qualitative analyses of the play group and of a nonhandicapped and a handicapped child's interactions during the cooperative games program. Conclusions will be drawn and implications and recommendations presented.
Summary and Interpretation for the Quantitative Data Analysis

Quantitative data analysis substantiates the idea that cooperative games do indeed promote prosocial behavioral interactions among young children with and without impairments. In examining the findings generated by the quantitative data collection, the following patterns emerged: (a) the highest incidence of positive physical contact behavior interactions and goal-related cooperative behaviors were associated with Condition 2, the cooperative games program; (b) although positive verbal interactions did not increase for 13 of the 16 children, what is perhaps more critical is that negative verbal interactions did decrease, which may eventually lead to increases in positive verbal interactions; and (c) a general decline in negative interactions occurred across the three conditions. Although the cooperative games program had minimal positive effect on the frequency of positive verbal interactions, the decrease in negative verbal interactions across the three conditions is important.

**Positive Physical Contact (PPC)**

The pattern of high incidence of PPC behaviors during Condition 2 (n = 68) and low incidence during Condition 1 (n = 41) and Condition 3 (n = 34) suggests that PPC behaviors
were maximally affected by cooperative games. There appeared to be no transfer of PPC behaviors from Condition 2 into Condition 3. This was especially true for the handicapped children, who only demonstrated PPC behaviors during Condition 2, the cooperative games program.

This finding confirms Orlick's (1983) idea that during cooperative games, children derive benefits that include physically interacting in positive ways with peers, working together, and accepting the contributions of others, which result in players having fun and feeling good about themselves. As a result of these benefits, the likelihood that game participants will engage in PPC behavior increases, as reported in the findings.

**Positive Verbal Interactions (PVI)**

The children participating in the study engaged in PVI to the greatest extent during Condition 1 (n = 114) and Condition 3 (n = 46). The teaching and learning (i.e., listening, thinking, responding) associated with understanding and performing cooperative game play may have resulted in children exhibiting a low incidence of PVI during Condition 2 (n = 28) because they were required to be motorically and cognitively involved in order to participate. This condition is in contrast to the free play involvement, in which cognitive and motor demands were not
necessarily required for successful participation and, as a result, participants could engage in PVI at a higher rate.

Goal-Related Cooperative Behavior

Interactions (GRC)

Participation in cooperative games (i.e., Condition 2) for the play group was superior in eliciting GRC behaviors when compared to free play (i.e., Conditions 1 and 3). This was particularly true for the handicapped children, who engaged in high rates of GRC only during Condition 2 (n = 63, subject mean = 15.75). The pattern of high incidence during Condition 2 (n = 371, subject mean = 23.18) and low incidence during Condition 1 (n = 82, subject mean = 5.12) and Condition 3 (n = 146, subject mean = 9.12) suggests that cooperative games are necessary for maximally affecting GRC behaviors. In addition, the cooperative games intervention program (i.e., Condition 2) positively affected the ability of the game participants to engage in goal-related cooperative acts in the subsequent free play session (i.e., Condition 3). A 43% increase in GRC behaviors for Condition 3 was noted.

Cooperative games require players to display a variety of cooperative behaviors (e.g., holding hands, working in unison) as a requisite for successful participation, while free play may not. Many times in free play, children are
involved in solitary or parallel play encounters in which cooperative acts are not required for successful participation. This missing ingredient may explain why the incidence of GRC behaviors was low during Condition 1 and Condition 3, but high for Condition 2.

As reported, the cooperative games program greatly affected the incidence of GRC behaviors for the handicapped children (i.e., \( n = 2 \) for Condition 1, \( n = 63 \) for Condition 2, and \( n = 4 \) for Condition 3). The low incidence rates associated with the free play conditions, Conditions 1 and 3, may have resulted from the handicapped children's inability to be involved in free play peer interactions and subsequent goal-related cooperative behaviors, since no structure exists in free play to facilitate interaction and cooperation.

**Negative Physical Contact (NPC)**

The continual decrease in NPC behavior interactions across the three conditions is suggestive of the positive effect the cooperative games intervention program (\( n = 37 \) for Condition 2) had on the nonhandicapped children participating in the study. This effect is substantiated by a 73% decrease in NPC behaviors from Condition 1 (\( n = 59 \)) to Condition 3 (\( n = 16 \)). The lowest reported NPC incident figure was associated with Condition 3. Because cooperative
games promote acceptance, interaction, and attraction among players and require players to demonstrate prosocial behaviors in order to collectively achieve game goals, players were less likely to act in negative ways towards one another.

**Negative Verbal Interactions (NVI)**

The incidence figures for negative verbal interactions reported during the study were, in rank order, Condition 2 (n = 17), Condition 3 (n = 20), and Condition 1 (n = 77). Although a 15% increase in NVI was reported in Condition 3, free play following the cooperative games intervention program, decreases of 78% and 75% in NVI did occur between Condition 1 and Condition 2 and between Condition 1 and Condition 3, respectively. The potential for cooperative games to reduce and maintain lower levels of NVI is substantiated by these findings.

**Total Number of Positive and Negative Behavior Interactions**

When comparing prosocial behaviors (i.e., positive physical contact and verbal interactions), negative social behaviors (i.e., physical contact and verbal interactions), and goal-related cooperative behaviors across free play and cooperative games participation, findings suggest that
prosocial behaviors and goal-related cooperative behaviors are maximized by a cooperative games program. The greatest incidence of total positive behaviors (n = 467) was associated with Condition 2. Without this cooperative structuring, these behaviors were minimally affected. A 51% decrease in total positive behaviors between Condition 2 and Condition 3 was noted.

The occurrence of negative social behaviors was also greatly minimized by the cooperative games program. Not only was the cooperative games program successful in reducing negative social interactions (n = 59 for Condition 2), but negative interactions remained at a low level in the subsequent condition. A 73% decrease in the total number of negative interactions occurred from Condition 1 (n = 136) to Condition 3 (n = 36), with Condition 3 associated with the lowest incidence figure.

Summary and Interpretation for the Qualitative Data Analysis

Qualitative data analysis also supports the idea that cooperative games promote prosocial behavioral interactions among young children with and without impairments. In examining the findings generated by the qualitative data collection, the following patterns emerged. The play group, including Susie, played according to game rules,
participated enthusiastically, and were actively involved in collectively responding to the demands of the game. Players physically and verbally supported each other. Visual, physical, and auditory clues were used by Johnny for initial learning and improving performance; and, although Johnny experienced some minor problems during game play (e.g., falling down), he did experience successful participation in the games.

**Hula Hoop Circle**

The children participating in the Hula Hoop Circle game had a positive learning experience. They were not only actively involved in collectively trying to achieve the goal of the game, but also physically and verbally supporting one another's efforts toward this end. In the Hula Hoop Circle game, each child must receive the hoop from the person on one side and pass it to the person on the other side of them; thus, each child had an opportunity to be both helper and recipient. This equality in game roles eliminates role conflict that may occur in some games.

It has been suggested that role conflict produces power struggles (i.e., highly skilled versus low skilled players) which result in negative social interactions among game players (Sapon-Shevin, 1986), such as name calling, accusing, pushing/shoving, and rejecting/avoiding. This
type of interaction was not observed during the Hula Hoop Circle game. Because each child's contribution was necessary for goal achievement, the potential for positive interactions to occur between players was heightened.

Positive interactions associated with cooperative games may be in the form of goal-related cooperative behaviors in response to the game structure (i.e., holding hands as required for goal achievement) or as a result of previous or spontaneous expressions not related to the game. Although it is not always possible to distinguish between the two kinds of positive interpersonal behaviors, knowing that certain types of play (i.e., cooperative games) are associated with positive social interactions can help to improve teaching and learning practices.

The structural design of the Hula Hoop Circle game includes two characteristics that facilitated Johnny's successful participation: (a) opportunities for observational learning and (b) physical support by team members. Because the game utilizes small groups of players located in close proximity to each other and players have time between turns, Johnny was able to observe the actions of his teammates in learning the game initially and, later, in improving performance. Johnny's successful participation was also aided by the player arrangement of the game. The arrangement of small groups of players holding hands
provided physical support for Johnny (i.e., aided him in maintaining a standing balance position), thus allowing him to concentrate on the game skill of hoop passing, even though he experienced difficulty with the prerequisite skills of standing and moving.

Another characteristic of the game that enhanced Johnny's participation was the simple format--hoop passing. A mistake like dropping the hoop was easily and quickly remedied, so the flow of the game was not disturbed. Also, the emphasis of the game was on working together, not on advanced skill performance, so lack of or low skill level did not negatively impact game play. The collective nature of the game may have also aided Johnny in participating successfully in the game, because he experienced a sense of being a contributing group member.

Ouch Person

One characteristic of the Ouch Person game that appeared to result in positive appeal for the children and subsequent accurate, enthusiastic play was its developmentally appropriate design. Gabbard, Leblanc, and Lowsy (1987) state: "Activities should be used that meet the needs, interests and capabilities of children at various stages" (p. 39). If game design is not developmentally appropriate for all participants, the cooperative game
structure will have limited impact on the prosocial behavior interactions of the participants. Examples of developmentally appropriate design in the Ouch Person game cross three domains of learning: (1) psychomotor (e.g., running); (2) cognitive (e.g., concrete use of materials; simplistic structure, or rules); and (3) affective (e.g., helping behaviors).

An important characteristic of the Ouch Person game that promotes positive player reactions is its structural design. This characteristic requires immediate interaction among players to continue game play (i.e., if target players are standing still, the game stops) and results in players positively interacting with peers, both physically and verbally.

As a result of its two-group structure (i.e., target and helper players), the Ouch Person game allowed Johnny numerous opportunities to observe other children in his group performing the appropriate skills. This observation provided the repetition necessary for learning and performing the game skills. Another characteristic associated with the Ouch Person game that may have increased Johnny's opportunities for successful participation was the minimal skill requirement (e.g., running, placing a band-aid) with an emphasis on players working together and helping each other, not on outperforming one another.
Bag the Bear

Characteristics believed to be associated with the positive response children had to the Bag the Bear game were the use of age-appropriate materials (e.g., stuffed animals) and the allowance for individual differences (e.g., children could choose movement skills) without an emphasis on comparative performance. In addition, players were allowed to participate in the game in a story-like manner (i.e., act out the circus scenario), which seemed appealing to this age group. Because the goal of the game was to collectively find and secure bears, partners worked together to achieve this end. As a result, both goal-related cooperative behaviors (e.g., running together) and non-goal related behaviors (e.g., sharing turns, verbal encouragement) were demonstrated. It appears this structure influenced the children's attitude toward the game in a positive manner. Orlick (1981a) supports the relationship between structure and enjoyment, stating: "The structure of the game itself should ensure a certain level of acceptance and ensure that certain desirable behaviors are reinforced regardless of the personnel in charge" (p. 65).

The Bag the Bear game afforded Johnny opportunities to have a direct impact on goal achievement through equal status and responsibility with his partner and involvement in all game actions. This game also provided Johnny with
opportunities for leadership status with his partner; as a result, he was an integral part of the game with opportunities for initiating and directing game actions. Emphasis on working together, not on outperforming peers, to achieve the goal of the game is an important aspect of Bag the Bear. This emphasis is reinforced by the collective characteristic associated with the game: working in pairs and in collaboration with other pairs, children play until all bears are returned. Being linked to a partner through carrying the bear bag kept Johnny in position for potential interactions, aided in maintaining on-task behavior, and may have facilitated movement and balance skills.

Big Turtle

The goal of Big Turtle (i.e., moving shell 10 feet) appeared to be very motivating to the children and may have influenced their enthusiastic approach to the game. Also, because the children were able to achieve this goal (i.e., final objective), they were positively reinforced in their efforts. The children really seemed to enjoy the game, and expressed this enjoyment by jumping, smiling, and making positive verbal comments at the conclusion of the game.

Enjoyment associated with attaining the goal or final objective of a game has been reported to be an important variable associated with successful cooperative games. "The
most successful games, in terms of eliciting cooperative behavior and sheer enjoyment," according to Orlick and Foley (1979), "seemed to be those . . . with a definite objective" (pp. 269-270).

As a result of the structure utilized in Big Turtle, Johnny had opportunities to self-select his playing position. This structure resulted in Johnny's being part of the group, with his contribution needed for goal achievement, even though he located himself apart from most of the children.

**Fish Gobbler**

A game characteristic that may have resulted in the children displaying high levels of enjoyment during this game was that all players were actively involved and belonged to the group, with each child's contribution needed for goal attainment (e.g., all players lying down and touching for sardines). In this game, goal attainment was directly linked to all players performing skills simultaneously, so it was important that participants engage in high rates of goal-related (e.g., holding hands) and non-goal related (e.g., verbal encouragement) cooperative behaviors. These behaviors were observed during the playing of Fish Gobbler.
Three other characteristics that may have positively affected player reactions to the Fish Gobbler game were the high levels of physical activity, close proximity, and physical contact demonstrated by the game structure. During the playing of Fish Gobbler, children were constantly moving in response to various commands (i.e., physical activity) and were required to squish together (i.e., close proximity); in order to respond successfully to most group commands, children had to be touching hands or feet (i.e., physical contact). Orlick and Foley (1979) concur with these findings, suggesting that cooperative games maximize cooperative behavior when high levels of gross motor activity, physical closeness, and physical contact are included.

Because all participants collectively performed all game actions simultaneously, those children unsure of how to respond to a specific command had additional chances to learn appropriate responses through peer observation. This not only allowed for increases in successful learning for those observing, but also promoted another type of cooperative behavior: peer teaching. Orlick (1976) suggests that children teaching children is a type of cooperative behavior that encourages helping and sharing skills. The important function peer teaching serves in game play was noted by the games teacher: "During the games, I
saw kids helping other kids . . . like a peer teacher. . . .
This was good, because the teacher couldn't help all the
kids at the same time."

Johnny enjoyed the game and had numerous opportunities
to learn through physical (e.g., holding hands), visual
(e.g., watching others perform), and auditory (i.e.,
receiving verbal prompts) cues. These cues possibly aided
Johnny in remembering responses and maintaining task
involvement, which are linked to enjoyable participation.

The importance of cues in promoting successful
participation in cooperative games was shared by both
teachers. The games teacher suggested: "Even if a kid,
like some of the handicapped kids, didn't know what or how
to do something, they could just watch, like in Fish
Gobbler." The play group teacher supported the importance
of cues and extended its value, reporting:

Cues are important. Like in Fish Gobbler, the children
could see what to do. . . . It is important for
handicapped kids not to look different to participate
equally . . . to do the same kinds of things like . . .
laughing. This might help the handicapped children to
be perceived as normal because he or she laughs like
the other children!

These teachers believed that cues were not just related to
successful performance for handicapped children, but also to
promoting positive perceptions concerning handicapped
children.
These two games, Partners and Blizzard, were selected for data analysis because they had limited effect on the prosocial behavior interactions of the children studied. In both games, the characteristic which appeared to minimize the incidence of interactions for participants was role delegation associated with the game structure (i.e., assuming a leadership and follower role, alternating between these roles, and initiating and directing movement actions). Orlick (1986b) states that successful and positive play experiences for young children are associated with simple, concrete concepts rather than with complex, dynamic concepts such as those in Partners and Blizzard.

The ability to initiate and sustain verbal and/or physical interaction is important to understanding role delegation. Children who lack or are limited in skills in these areas experience difficulty in role delegation. As a result, minimal opportunities arise for play and peer interaction. The play group teacher was aware of problems associated with role delegation as he reported: "The leader-follower games didn't work so well, because some of the kids aren't very good at leading, yet, like Partners and Blizzard."

Susie experienced difficulty in the game, not because she did not possess the skills necessary to initiate and
direct game action, but because some of her partners were not able to provide necessary responses. In playing these games, both members of the pair must perform at high levels in order to initiate and sustain game participation and interactions. Many times, as reported, this dual performance did not occur.

These two games presented Johnny with a problem that resulted in less than successful performance and diminished participation: confusion concerning role and accompanying responsibilities. Because of this confusion, Johnny appeared worried and unsure of his movements, and he wandered around the play space instead of participating. In addition, he intentionally changed positions in line to delay his turn to play.

Teacher intervention was used to remedy the role delegation problems associated with these games. By implementing more concrete rules, modifying original directions, and increasing the collectiveness of the games, player participation and interaction were enhanced. Children who had difficulty with initiating and following, like Johnny, benefited from the changes. Children like Susie, who could initiate and direct game action, also benefited from the intervention, because the potential for correct partner response increased.
Conclusions

The five most prominent results of the study were that:

1. Cooperative games resulted in higher rates of positive physical contact behavior interactions than did free play, especially for the handicapped children.

2. Cooperative games participation had a minimal positive effect on positive verbal interactions.

3. Cooperative games enabled the players to demonstrate higher rates of goal-related cooperative behaviors than did free play, especially for handicapped participants.

4. The cooperative games program was an effective intervention for decreasing instances of negative physical contact behavior interactions and negative verbal interactions.

5. There were differences in the extent to which various games and key game characteristics facilitated successful participation and positively affected player performance.

   Enthusiastic, enjoyable and successful participation, peer acceptance, and positive player appeal and reaction appear to be linked to specific game characteristics. These characteristics include developmentally appropriate design, the requirement of high levels of gross motor activity with an emphasis on working together instead of outperforming another, and achievement of predetermined, definite, final
objective of the game. Another characteristic directly linked to the cooperative structure of the game is the collective element (i.e., the children's contributions being necessary and needed for goal attainment).

The easy remediation of game-related mistakes was another game characteristic related to enthusiastic, enjoyable and successful participation, peer acceptance, and positive player appeal. Game mistakes that are easily remediated do not interrupt the flow of the game or result in a game stoppage and do not, therefore, draw attention to the child who made the mistake. This is an important consideration in promoting acceptance and normalization.

Learning and performing game-related motor skills correctly are two important outcomes associated with successful participation. These outcomes may be enhanced by specific game characteristics: (a) ample opportunity to learn through physical, visual, and auditory cues; (b) minimal motor skills required to play; and (c) use of concrete, simple concepts for teaching, learning, and playing the game.

Many times, children who are not able to perform game-related motor skills or who do not understand game concepts experience low participation levels and subsequent diminished rates of interaction. This may put them at risk of being perceived as different or not normal. If these
children can do what is expected (i.e., motor skill performance and understanding of game concepts), they are more likely to be viewed as normal and welcomed as group members.

Another game characteristic that encourages high participation levels and may facilitate normalizing attitudes is the manner in which children are physically arranged for game play. When arrangement reduces the importance of prerequisite skill performance (e.g., circle of four players holding hands provided needed stability to Johnny), a child who could not participate in the game otherwise is able to play, contribute to goal achievement, and interact with peers. This participation serves as a normalizing experience in which peers perceive the child as normal because he/she is performing at an acceptable rate and doing what is expected (i.e., acting normal).

In addition, equal game roles, which eliminate power struggles and provide equal opportunities for leadership, also had a positive impact on participation and performance. Inclusion of these three characteristics in cooperative games results in players who are not only actively involved in collectively trying to achieve the goal, but also developing a sense of being contributing group members. This sense of belonging and being needed results in players physically and verbally supporting one another, which can in
turn enhance participation levels and positively influence performance.

Taken as a whole, these conclusions demonstrate the important, positive effect cooperative games have on young children with and without impairments in facilitating both goal-related cooperative behaviors and positive social interactions. It is suggested that cooperative games are a viable method for promoting prosocial behavior interactions of young children with and without impairments, thus promoting acceptance of diversity and normalizing attitudes.

Implications

The findings generated by this study have the potential to improve current integrated programming practices for children. The study has implications for altering the practices of parents, teachers, teacher educators, and community recreation leaders. If current integrated educational and community practices are to improve, a new attitude concerning human differences must be developed which stresses accepting diversity as the norm and advocating equal access to educational excellence for all persons. Values characterizing this new attitude include accepting differences, promoting acceptance, providing encouragement, and accepting personal goal contributions regardless of quality or quantity. If attitudes and
subsequent practices are to change, impairment must be viewed as but one characteristic of a person, not as defining the whole individual. This thinking will result in persons with impairments being viewed holistically and lead to a more normalizing perspective.

Based on this new attitude, current practice can be improved in a variety of ways and in different places (e.g., home, school) by a wide range of individuals. Parents can encourage cooperative play in family and neighborhood settings. Many cooperative games requiring no equipment can be played in yards or parks with small numbers of players (e.g., Fish Gobbler). Because cooperative games promote interaction skills rather than performance skills, players of varying ages, abilities, and sizes can successfully play together. This informal type of play demonstrates that all persons—regardless of age, ability, or size—can interact, play hard and have fun. This learning has the potential to impact relationships in positive ways by fostering acceptance of others.

Many times, maximum attention in physical education class is placed on comparing individual performances. This can diminish participation and interaction for persons who do not compare favorably with peers in relation to motor skill performance (Eichstaedt & Kalakian, 1987). The use of competitive and individualistic goal-structured activities
is also an extremely popular practice in physical education. This practice is linked to decreases in positive interaction and increases in negative acts directed toward peers. Attention to comparative worth and the use of competitive and individualistic goal structures all minimize the effects of teacher efforts to promote acceptance for students perceived as different. Although strategies for promoting acceptance are critical in mainstreaming a handicapped student, they also benefit other students who may not be so educationally labelled but may be otherwise viewed as different.

Through the use of cooperative games, teachers can facilitate successful learning and peer interaction among students, thereby increasing performance and participation. When students who were previously perceived as different engage in the required activity, display satisfactory progress and interact in normal, acceptable ways, the likelihood that these students will be accepted and considered normal increases.

If school teachers are to implement these philosophies and practices, teacher educators need to incorporate these practices into their curricula. Teacher educators can improve current educational practice by modeling cooperative learning techniques, including cooperative learning information in methods courses, and providing field
experience that allows students to practice cooperative learning concepts learned in the classroom (e.g., cooperative games field day). The teacher educator who implements the three previously noted approaches has the potential of having an impact both on his/her students and on the children those students will one day teach.

Community-based recreation programs can also improve current programming practices for children with and without impairments. This can be accomplished through programs that allow for a wide variety of performance levels, are inclusive in structure, and emphasize participation and togetherness rather than superior skill performance. Emphasis on superior skill performance is contra-indicated in promoting participation, performance, and interaction, because it is usually accomplished at the expense of those not as highly skilled. Community programs should strive to meet the needs of all persons, thereby reflecting the inclusive nature of community.

Cooperative games are an example of a community recreation activity based on inclusive structure which allows for participation at various performance levels. In addition to cooperative games programs, modified methods (Orlick, 1978) that encourage participation and interaction and promote success could be incorporated into a variety of activities traditionally sponsored by community recreation
programs (e.g., basketball, flag football, volleyball, and soccer). These include collective score (i.e., cumulative score), all touch (i.e., all players on the team must touch the game object before an attempt at scoring is made), all score (i.e., all players must score in order to end the predetermined unit of playing time), and co-ed pass (i.e., passing alternates between boys and girls). Chair pass can also be used to encourage passing to players in wheelchairs. Only when programs are designed to encourage and promote participation for all persons can they rightly be called community programs.

Recommendations

The following specific programmatic recommendations arose from this study:

1. Cooperative games should be viewed by persons involved with or supportive of integrated programs as a viable means of improving current integration practices and enhancing normalization for young children with impairments.

2. Teachers who want to use cooperative games to facilitate goal-related cooperative behaviors, maximize positive social interactions, and minimize negative social interactions for young children should select games that are developmentally appropriate; provide easy
remediation of game-related errors; emphasize working
together to collectively achieve the game goal; provide
ample opportunities for learning through physical,
visual, or auditory cues; use simple, concrete game
concepts; require minimal motor skills for
participation; and provide equal game roles.

3. Teachers wanting to improve current integration
practices and enhance normalization for young children
with impairments might wish to select games from the
Cooperative Games Curriculum (Appendix I).

4. The benefits available through cooperative game
participation for young children could be maximized by
playing cooperative games on a regular basis to allow
children ample time to learn and understand the games.
A sample schedule might include one game a day for 10 to
15 minutes, repeated for two to four days.

5. Teachers directly involved with children who are
participating in a cooperative games program should play
the games with their children. These teachers should
also receive workshop training in the philosophy,
concepts, implementation, and implications associated
with this content area so they can better promote
prosocial behavior interactions through cooperative game
play.
6. Education should be provided to parents of children participating in cooperative games programs. Teaching/learning sessions could be designed to provide parents with appropriate instruction and opportunities to participate in cooperative games with their children and their children's teacher so they become supportive of these efforts and reinforce cooperative interaction at home.

In addition, the following recommendations for further study are presented:

1. Additional studies should be undertaken using a larger, more random sample and a control group. Such a design might enable the researcher to infer results to similar and larger populations.

2. A similar study could be conducted utilizing videotape analysis. This analysis would allow for complete observation of all interactions and result in a more complete data base from which to draw conclusions.

3. Extending the study over a long time period (e.g., three months rather than nine weeks) would provide additional data upon which to compare the effect of the conditions on the children's behavior. An additional benefit of this extended time period would be to allow the children more opportunity to become comfortable with the games
and to determine if there was any carry-over value to other areas.

4. Utilizing different age children in similarly designed studies might help in determining if an optimal age exists for initiating cooperative game play.

5. Including children with various impairments might demonstrate why certain games are associated with higher levels of interaction and participation for specific children.

6. Utilizing early childhood teachers familiar with the social interactions of young children and child study methods would enhance observation methods and data collection procedures.

7. Examining the effects of the three conditions on individual children's behavior interactions might suggest factors outside game characteristics that affect behavior interactions (e.g., temperament).

8. Expanding the focus of similar studies to examine the effect of cooperative games on other learning (e.g., language development) might suggest further uses of cooperative games in promoting children's development.

In order to provide integrated programs and implement integrated school practices, far-reaching changes must occur in the way teachers, students, administrators, teacher educators, and parents think about schools. This conceptual
restructuring would be characterized by an inclusive rather than an exclusive approach to teaching and learning by teachers who celebrate rather than hide children's differences. These changes are linked to a strong belief in equality and a collaborative attitude, focused on promoting equal educational and social opportunities for all students by all teachers. It is this writer's belief that cooperative games and other types of cooperative structured learning are important tools needed in the vital work of changing schools from exclusive to inclusive learning centers.
APPENDICES
APPENDIX A

FORMAL RESEARCH CONTRACT
Dear [Name]:

I am requesting permission to conduct observations in the MSU Preschool gymnasium during the Spring quarter of 1989. These observations will be conducted during the 10:25-10:55 gross motor play time, Monday–Friday, occurring between 3/13/89 and 5/12/89. The observations will be made over three 3-week periods to include 36 lessons (i.e., 24 lessons of regularly scheduled free play and 12 lessons of an intervention cooperative games program).

The observations of the 24 lessons of regularly scheduled free play and 12 lessons of cooperative games play will be conducted by three MSU Early Childhood Education student teachers and one physical education teacher. These sessions will be led by a licensed physical education teacher.

During the 12 lessons of cooperative games, I will be observing your children unobtrusively and recording patterns of social interaction that occur. Also, interviews will be conducted with the teachers to gain insight into their perspectives regarding the effect the games had on their children. I will be happy to share information gained from these observations and interviews at the conclusion of this study.

Thank you for your support concerning this endeavor.

Preschool Teacher ______________________
Preschool Director _____________________
Researcher __________________________

Date __________
APPENDIX B

PROSOCIAL BEHAVIOR INVENTORY
Taking/Asking for a Turn
Touching
Following Rules
Making Rules
Working Together
Accepting Differences
Physically Helping Others
Listening to Others
Cooperating
Communicating
Physical Affection
Verbal Encouragement
Supporting Each Other
APPENDIX C

PRELIMINARY GROUP PLAY OBSERVATION CHECKLIST
<table>
<thead>
<tr>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behaviors</td>
</tr>
<tr>
<td>Working Together</td>
</tr>
<tr>
<td>Cooperating</td>
</tr>
<tr>
<td>Supporting Each Other</td>
</tr>
<tr>
<td>Physical Affection</td>
</tr>
<tr>
<td>Verbal Encouragement</td>
</tr>
</tbody>
</table>
APPENDIX D

PROSOCIAL BEHAVIORAL INTERACTION CHECKLIST
Prosocial Behaviors

Positive Physical Contact (touching and/or assisting another in a helpful manner)

Comments

Positive Verbal Interaction (words or sounds directed toward another in a helpful way)

Comments

Game _________________________
Date ________________
APPENDIX E

REVISED BEHAVIOR INTERACTION CHECKLIST
POSITIVE INTERACTIONS DEMONSTRATE HELP, SUPPORT, ASSISTANCE OR ENCOURAGEMENT TOWARD ANOTHER CHILD

PHYSICAL CONTACT
Examples: Hugging, holding hands [affection]; Helping someone who has fallen; Kissing; Patting someone on the back; Grabbing someone; Holding someone

VERBAL COMMENTS
Examples: Wanna Play? I'll help you! Do you need help? Are you all right? I fell down, before, too! Do you wanna use this? Thanks! Let's do it again! That's good!

GOAL-RELATED COOPERATIVE BEHAVIORS
Doing things or accomplishing tasks where it is obvious the children are working together to accomplish a goal. May not include POSITIVE contact or verbal interactions. Examples: Children propelling the circular walker, rolling a ball back and forth, or carrying an object.

NEGATIVE INTERACTIONS DO NOT DEMON­STRATE HELP, SUPPORT, OR ENCOURAGE­MENT TOWARD ANOTHER CHILD. THESE INTERACTIONS MIGHT DEMONSTRATE AGGRESSION, POWER, OR LACK OF CONCERN FOR ANOTHER CHILD.

PHYSICAL CONTACT
Examples: Hit, push, shove, slap, punch Pulls hair Takes a piece of equipment Throws object at another child Kicks Squeezes hand hard

VERBAL COMMENTS
Examples: You can't do that! That's not good! You do that funny! I don't want to play with you! I'm going to hit you! Let's get away from her!

Date __________ Teacher __________ FP CP
APPENDIX F

GAME ANALYSIS CHECKLIST
Cognitive Demands

Structural Components

Equipment

Rules

Spatial Arrangements

Players

Goal

Fun

Potential to Elicit Prosocial Behavior Interaction

Other (e.g., problems)
APPENDIX G

COOPERATIVE GAMES INTERVENTION PROGRAM
COOPERATIVE GAMES INTERVENTION PROGRAM

Games
Toesies Handsies
Big Turtle
Sticky Popcorn
Fish Gobbler
Hugs
Caterpillar Over the Mountain
Choo Choo
Hula Hoop Circle
Touch
Bag the Bear
Beach Ball Balance
Cooperative Musical Chairs
Blizzard
Ouch Person
Partners
Big Ball Bowling
Game Descriptions

Toesies Handsies (Orlick, 1978)

Children, in pairs and lying on the ground with either hands or toes touching, attempt to perform a two-person log roll a specified distance without letting go of hands or toes.

Big Turtle (Orlick, 1978)

Small groups of children on knees and hands with a tumbling mat (i.e., turtle shell) placed on their backs attempt to collectively move a specified distance while keeping the mat on their backs.

Sticky Popcorn (Orlick, 1978)

Children in a curled position on the floor slowly rise from the floor as if they were popcorn popping. Upon rising, children pop (i.e., jump) up and down. When they bump into others, they stick to (i.e., stay together) this person. Play until all children are stuck together.

Fish Gobbler (Orlick, 1978)

A group game in which participants collectively respond to commands made by a leader (i.e., Fish Gobbler). Examples of commands are Fish Net— all players join hands—and Sardines—all players lie close together on floor.

Hugs (Orlick, 1978)

A tag game in which the tagged players, who must stand still, are free to play again when hugged by a teammate.

Caterpillar Over the Mountain (Orlick, 1978)

Children on hands and knees, in line and holding the ankles of the person in front of them, collectively attempt to crawl over a mountain (i.e., pile of cushions) while staying connected.
Choo Choo (Grineski)

Pairs of students in line, with one partner holding the hips of the other partner, move around the play space while the "Choo Choo" music plays. When the music stops, pairs of students link up to make foursomes and resume play—stopping, linking, and starting. Play until all players are in one line. When the music stops, continually move the engine person (i.e., leader) to the end (i.e., caboose). Play until all players have had a turn at the engineer position.

Hula Hoop Circle (Dauer & Pangrazi, 1986)

Four children holding hands in a circle, facing in, with a hoop dangling on one pair of joined arms, attempt to move the hoop around the circle, passing each body through the hoop, without letting go.

Touch ("Touch Blue," Deacove, 1978)

Children in a circle respond to commands by a leader person (e.g., touch hands). When each new command is given, all previous commands must be continued (e.g., hands touching, touch elbows). Play until all children are performing maximum number of commands.

Bag the Bear (Grineski)

A partner game in which two players hold a sack and move through the play space, finding bears (i.e., stuffed animals), putting them into their bear bag (i.e., sack), and returning them to their cages (i.e., cardboard box). Play until all bears are returned.

Beach Ball Balance (Orlick, 1978)

Two players, holding a large softball with their bodies (not their hands), attempt to collectively move a specified distance and drop the ball into a hoop. If the ball drops to the floor, players (with or without assistance) must place the ball back in the previous position without use of hands.
Cooperative Musical Chairs (Orlick, 1978)

Players, when music is playing, move around a line of chairs. When the music stops, children find a chair and sit down. While the children are moving around the chairs, chairs are taken away one at a time. When the music stops, all children must be sitting either on a lap or a chair. Play until all children are sitting on one chair.

Blizzard (Deacove, 1974)

Pairs of children assume either a follower role (i.e., blindfolded to simulate a blizzard condition) or a leader role (i.e., provide help to person in blizzard) to play the game. The leader person, holding hands with the follower, guides him/her over, around, in/out, and on a variety of obstacles. The goal of the game is for the leader to guide the follower through the obstacles without the obstacles being touched.

Ouch Person (Grineski)

A group tag game utilizing three different roles: (1) Ouch Person--acts as the tagger; (2) target players--attempt to avoid being tagged (i.e., ouched) by the Ouch Person, and if they are tagged, they must stand still and hold the tagged part and say "ouch"; and (3) helper players--place band-aids (e.g., tape strips) on the target player's tagged part so they are once again free to play. Play until all players have had a chance to be target and helper players.

Partners (Grineski)

Individual players move throughout the play space. On the command of "Partners," children take a partner. When the children are in pairs, they assume two roles: leader and follower. During a 30-second period, the follower must perform the movements initiated by the leader. At the end of the time period, the command of "Go" is given, and the children leave their partners, running individually until the command of "Partners" is made and the process repeated.
Big Ball Bowling (Grineski)

A group game in which the players collectively roll a 48-inch ball at a set of pins placed 15 feet away from a starting point. Each pin down scores 1 point. The group tries to score 20 points.
APPENDIX H

COOPERATIVE GAMES PROGRAM INTERVENTION SCHEDULE
Week One
Day 1: Toesies Handsies, Big Turtle, Sticky Popcorn
Day 2: Fish Gobbler, Hugs, Sticky Popcorn
Day 3: Caterpillar Over the Mountain, Hugs, Toesies Handsies
Day 4: Big Turtle, Choo Choo

Week Two
Day 1: Hula Hoop Circle, Fish Gobbler
Day 2: Hula Hoop Circle, Touch
Day 3: Touch, Bag the Bear
Day 4: Beach Ball Balance, Cooperative Musical Chairs, Bag the Bear

Week Three
Day 1: Blizzard, Ouch Person, Partners
Day 2: Big Ball Bowling, Cooperative Musical Chairs, Hugs
Day 3: Beach Ball Balance, Blizzard, Ouch Person
Day 4: Partners, Choo Choo
APPENDIX I

COOPERATIVE GAMES CURRICULUM
Toesies Handsies
Big Turtle
Sticky Popcorn
Fish Gobbler
Hugs
Choo Choo
Hula Hoop Circle
Touch
Bag the Bear
Cooperative Musical Chairs
Ouch Person
Big Ball Bowling
Caterpillar Over the Mountain
REFERENCES


