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The generalization and maintenance of social skills for at-risk preschool children: A comparison

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THE GENERALIZATION AND MAINTENANCE OF SOCIAL SKILLS FOR AT-RISK PRESCHOOL CHILDREN: A COMPARISON

by

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The current dissertation research project utilized a multiple baseline across subjects and across treatments design to investigate the effects of specific programming for the generalization and maintenance of social skills for 23 at-risk pre-kindergarten children. Two approaches to generalization, training competent peers and training target children, were paired with group socialization intervention activities to promote the generalization of social skills to a non-intervention setting and the maintenance of these skills over time. Frequency and duration of child-child social interaction were observed and recorded through use of videotaped observations of subjects during free play.

Results of this study indicate that the benefits of social skills intervention are enhanced when when specific instructional strategies are employed to promote the generalization and maintenance of social skills acquired through intervention. Further findings support the training of socially competent peers as a useful strategy when attempting to promote the generalization of social skills to non-intervention settings and the maintenance of these skills over time.

DEDICATION

The conclusion of this dissertation research project represents the close of a chapter in my life that would never have been written without the continued and loving support of those close to me. My mother, Shirley Garriss, and recently deceased father, L. W. Garriss, provided encouragement at every juncture, and especially when my own resources seemed that they might falter. In addition, I am especially fortunate to have close friends who for several years have understood and accepted my need to spend more time on my computer or in my study than any of us would have liked. Their continued support and tolerance, in spite of the numerous occasions on which I was "unavailable," are appreciated beyond words. This study is dedicated to my family and my friends, with love.

APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of the Graduate School at The University of North Carolina at Greensboro.

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CHAPTER I

INTRODUCTION

Positive social experiences in early childhood are thought to be critical to the social and cognitive development of young children. Achieving social competence is one of the primary developmental tasks of the early childhood years. An abundance of special education literature documents the numerous difficulties often experienced by children with disabilities. Preschool children who have not yet been identified as having disabilities, and those who are at risk for learning problems due to socioeconomic and other factors, likewise are prone to difficulties related to poor social interaction with their peers. It is clear from published research that enhancing the social competence of children with disabilities, and those at risk for learning difficulties, represents a major challenge for regular and special educators.

Researchers continue to develop a wide array of social skills intervention techniques and materials. A majority of investigations, however, fail to include efforts to assess the generalization and maintenance of new skills acquired through use of these techniques and materials. Recent reviews of generalization literature indicate that there is

need for social interaction intervention that includes programming for generalization and maintenance. Specifically there is need to examine the variables that successfully promote generalization to nonintervention settings and maintenance over time.

Statement of the Problem: Research Questions

An abundance of literature addresses the benefits of social skills intervention for young children. Immediate benefits notwithstanding, an important measure of the success of any intervention is the extent to which the gains are long-term (maintained) and occur in other settings (generalized). Documented investigations of maintenance and generalization are surprisingly few. Thus, there is little empirical evidence available concerning how generalization and maintenance are actually accomplished. This project does not purport to measure the effectiveness of the selected social skills intervention itself. It does, however, address the value of modifying validated methods of intervention to include specific strategies to promote generalization to other settings and maintenance over time.

The overall goal of this project is to examine the generalization of social skills from a group instruction setting to a nonintervention setting, and the maintenance of these skills over time. The purpose is to investigate whether the generalization of social interaction skills to a

nonintervention setting is enhanced through use of social interaction training that includes specific generalization strategies, and whether these specific generalization strategies promote maintenance over time. The study investigates two approaches to generalization in an effort to isolate certain variables that contribute to the success of social interaction intervention for preschool children who are classified at-risk. The two approaches are then compared to determine whether one approach proves to be more effective than the other. More specifically, the research questions addressed are:

1. To what extent does an approach to social interaction intervention which features *programming of common social stimuli and use of competent peers* result in the generalization and maintenance of social interaction skills?

2. To what extent does an approach to social interaction intervention which features *train-to-generalize strategies* result in the generalization and maintenance of social interaction skills?

3. Is the training of socially competent peers more effective than the training of target children in efforts to promote the generalization and maintenance of social interaction skills?

CHAPTER II

A REVIEW OF THE LITERATURE

Social Competence

Definitions

Odom and McConnell (1985) review definitions of social competence and find wide variance across and within theoretical orientations, including cognitive, behavioral, performance-based, and "all-inclusive" theoretical frameworks. Although social competence has been conceptualized differently by many theorists (Foster & Ritchey, 1979; McFall, 1982; Shure, 1981; Zigler & Trickett,1978), Guralnick (1992) finds that most definitions refer to *1) a child's effectiveness in influencing peer's social behavior and 2) the appropriateness of the child's behavior given a particular context or setting.* Likewise in an earlier work, Guralnick (1990b) defined social competence as the *ability of young children to successfully and appropriately carry out their interpersonal goals.* Odom, McConnell & McEvoy (1992) note that social incompetence is characterized by a lack of positive effect on a peer's behavior or by the absence of any peer-directed behavior. Thus, according to Odom et al. (1992), a major conceptualization of social competence is based on specific

social behaviors of the child during peer-related social interaction. They conclude that social behaviors are the building blocks of interaction, and social interaction is the foundation upon which social competence is based.

Importance of Social Competence

The importance of peer relations in the development of young children has been well-documented for a number of years. More than half a century ago, Piaget (1926) emphasized the role of peer interaction in the cognitive development of young children. Researchers over the last two decades especially have concluded repeatedly that peer interaction contributes significantly to the development of social and communicative competence, as well as developmental gains and academic success (Curl, Rowbury, & Baer, 1985; Hendrickson, Strain, Tremblay, & Shores, 1981; Ichinose & Clark, 1990; Strain, Guralnick, & Walker, 1986; Strain & Odom, 1986). Damon (1981) states that peer interaction facilitates cognitive development because children gain knowledge about the physical world through social exchanges with their peers. Furthermore, positive early peer relationships are thought to be essential for social and emotional development as well as for later life adjustment (Guralnick, 1992; Hartup, 1978; Quay & Jarrett, 1984). Guralnick (1990b) further suggests that peer social competence is a central organizing construct in child

development. Odom et al. (1992) add that social competence is indeed a central organizing theme for development and, essentially, for life. Thus competence in peer-related social interaction is an area of increasing concern of professionals among many disciplines, including education, developmental and clinical psychology, communication and language, occupational and physical therapy, social work, and family interaction specialists (Guralnick, 1990a).

Importance for Children with Disabilities

Social functioning of children with disabilities has been described consistently as less competent than that of normally developing children.

Odom and McEvoy (1988) review numerous studies that document differences in social interactions between children with disabilities and their normally developing peers (Apolloni, Cooke, & Cooke, 1977; Beckman, 1983; Faught, Balleweg, Crow, & van den Pol, 1983). The abundance of literature related to the difficulties in social interaction experienced by young children with disabilities supports the premise that this represents an area of major concern among special educators. Sabornie, Marshall, and Ellis (1990) report findings of recent studies which show that children with learning disabilities continue to be socially rejected or unaccepted by their normally developing peers (Bender, Wyne, Stuck, & Bailey, 1984; Gottlieb, Gottlieb, Berkell, &

Levy, 1986; Gresham & Reschly, 1986). Gresham (1982) reviews a large number of studies indicating that children with disabilities interact less often or more negatively than nondisabled children, and that children with disabilities often are poorly accepted by their peers. Reviews of numerous other studies show important social skill deficits among children with mental retardation (Guralnick, 1986), learning disabilities (Bryan & Bryan, 1978; Bryan, Pearl, Donahue, Bryan, & Pflaum, 1983; Donahue & Bryan, 1984; Fox, 1989), behavior disorders (McConnell, 1987; Strain & Timm, 1974), sensory impairments (Antia, Kreimeyer, & Eldridge, 1993; Sisson, Van Hasselt, Hersen, & Strain, 1985), and autism (Odom, Strain, Karger, & Smith, 1986).

Intervention

Given the view of social competence as a complex set of skills that includes effective peer interactions, it is not surprising that much attention has been given to social interaction intervention. Numerous authors have suggested that for children with disabilities, effective peer-related social interaction leading to social competence may not occur without specific intervention (Beckman & Kohl, 1987; Bricker, Bruder, & Bailey, 1982; Chandler, Fowler, & Lubeck, 1992; Fewell & Oelwein, 1990; Honig & McCarron, 1988; Odom & McEvoy, 1988; Peck & Cooke, 1983). Moreover, it is repeatedly maintained that interventions should begin early

in order to be of maximum benefit (Guralnick & Groome, 1987; Madden & Slavin, 1983; Odom, Jenkins, Speltz, & DeKlyen, 1982; Odom et al., 1992; Strayhorn & Strain, 1986).

Social competence is frequently discussed in the early intervention literature. Guralnick (1990a) posits that understanding and promoting the social competence of young children with disabilities may well be the most important challenge to the field of early intervention in the decade of the 1990s. Social competence develops over time and is part of a dynamic process requiring children to draw upon their own individual resources. The extent to which individual resources are limited determines in large part the degree to which a child with disabilities achieves social competence. Early problems with social competence can result in limited opportunities for positive peer interactions. It is therefore imperative that children with disabilities, or those at risk, should be placed in environments that are conducive to positive social interaction, and indeed promote peer interaction through effective intervention.

A wide array of social skills intervention strategies have been implemented, often with measurable successes. Three general categories of interventions are suggested by Odom, McConnell, and Chandler (1993). *Environmental arrangement interventions* are those in which the teacher arranges the classroom and materials in ways that promote

positive social interaction between young children. This category of intervention strategies includes restricting certain areas of the classroom or providing certain types of play activities selected to promote social interaction. *Child specific interventions* involve direct instruction by the teacher to train children in the use of specific social skills. This includes teacher-mediated interventions that often involve prompts and reinforcers directed to target children by the teacher. In *peer-mediated interventions*, socially competent peers are trained to interact positively with children who are socially less competent. This typically involves teaching peers to deliver social prompts to target children, with the teacher usually present but not directly involved.

McEvoy, Odom, and McConnell (1992) provide an overview of research evaluating teacher-directed and peer-mediated interventions. Researchers have found positive effects for teacher praise (Allen, Hart, Buell, Harris, & Wolf, 1964), teacher prompts and praise (Wolfe, Boyd, & Wolfe, 1983), peer initiation procedures (Goldstein & Strain, 1988; Odom & Strain, 1984; Ragland, Kerr, & Strain, 1978; Strain, Shores, & Timm, 1977), multiple peer trainers (Brady, McEvoy, Gunter, Shores, & Fox, 1984; Odom et al., 1986), and group training and reinforcement (Lefebvre & Strain, 1989). Correspondence training has also been reported to result in increased social

interaction (McEvoy, Niemeyer, & Fox, 1989; Niemeyer, McEvoy, & Fox, 1990; Osnes, Guevremont, & Stokes, 1986; Rogers-Warren & Baer, 1976).

Efforts to assess the relative merits of teacher-directed versus peer-mediated social interaction intervention have produced mixed results (Odom & Strain, 1986; Strain & Timm, 1974). Smith, McConnell, Maretsky, Kudray, and Strain (1987, cited in McEvoy et al. 1992) therefore investigated the combined effects of teacher-mediated and peer-mediated interventions. Their results confirm earlier findings that peer-mediated interventions increase the rates of peer initiations and target child responses while teacher-mediated interventions increase the rates of target child initiations and peer responses. More importantly, however, they found that when the two interventions are combined more equivalent rates of interaction are noted.

Other intervention procedures, broadly categorized as environmental arrangement interventions, have been found to be effective in increasing rates of social interaction among young children with disabilities and their normally developing peers. Friendship activities (Twardosz, Nordquist, Simon, & Botkin, 1983) have been used with children who are isolate or withdrawn (Twardosz et al., 1983), have mental retardation (Brown, Ragland, & Fox, 1988), autism (McEvoy, Nordquist, Twardosz, Heckaman, Wehby, &

Denny, 1988) or have been abused or are at risk for abuse (Niemeyer & McEvoy, 1990, cited in McEvoy et al., 1992). Goldstein and Cisar (1992) report improved social interaction through socio-dramatic play intervention. Haring and Breen (1992) investigated social network intervention which they found to be effective in promoting friendships as well as increasing the frequency and appropriateness of social interaction.

Discrepancy Between Intervention and Generalization

The ultimate goal of any program of intervention is not merely a change in behavior during training. An important measure of the success of any program is the extent to which the gains are long-term (maintained) and occur in other settings (generalized). Unfortunately a wide discrepancy exists between how effectively these social skills intervention strategies work to change social behavior and how effectively these new behaviors generalize to other settings and are maintained over time (Chandler, Lubeck, & Fowler, 1992).

Generalization and Maintenance

Definition

Baer and colleagues established goals some twenty-five years ago for applied behavior analysis that included changes in behavior which a) generalize to a variety of environments, b) spread to a variety of relevant behaviors, and c) are

maintained after an intervention is terminated (Baer, Wolf, & Risley, 1968). A decade later, Stokes and Baer elaborated on the earlier conceptualization of generalization with the following definition:

> Generalization will be considered to be the occurrence of relevant behavior under different, non-training conditions (i.e., across subjects, settings, people, behaviors, and/or time) without the scheduling of the same events in those conditions as had been scheduled in the training conditions. (Stokes & Baer, 1977, p. 350)

Types of Generalization

Several types of generalization have been identified by researchers (Chandler, 1992; Chandler et al., 1992; Fox, McEvoy, Leech, & Maroney, 1989) most of whom propose some adaptation of Stokes and Baer's 1977 categorization of generalization types. Fox et al. (1989) suggest that perhaps the most basic categorization consists of 1) setting, 2) response, 3) person, and 4) across time generalization. *Setting generalization* refers to the extent to which target behaviors are observed in different physical locations or with different social stimuli. *Response generalization* occurs when the change in behavior is accompanied by concurrent changes in other behaviors. *Person, or subject, generalization* refers to changes in behavior not only for the target child but also for another child with similar characteristics. *Across time generalization* is more often referred to as *maintenance* and refers to the extent to which

the changes in target behaviors persist after the termination of intervention (Fox et al., 1989).

Maintenance

The concept of maintenance more recently is being considered a separate construct, related to generalization but not a type of generalization. Whereas generalization refers to the transfer of new skills across different circumstances, the concept of maintenance encompasses the additional characteristic of durability, or strength of persistence over time. Current authors increasingly are referring to generalization and maintenance as a pair of constructs (generalization/maintenance) rather than one an a subset of the other (Fox, Niemeyer, & Savelle, 1992; Odom et al., 1992). Maintenance is defined as the durability or length of time for which changes in target behaviors persist after training has been terminated.

Importance of Generalization and Maintenance

Generalization was once thought to be a passive phenomenon (Stokes & Baer, 1977). The assumption was that effective teaching inevitably resulted in the occurrence of new behaviors in other settings. In other words, generalization was something that just happened. Programming for generalization was not needed. Stokes and Baer believed differently and appealed to researchers to address the need for systematic analysis of strategies which might promote the

generalization and maintenance of social interaction skills over time (Stokes & Baer, 1977). In spite of similar recommendations (McConnell, 1987; Stokes & Osnes, 1987; Strain & Fox, 1981), the number of studies that focus on these issues is limited. Recent reviews of generalization studies have shown that although immediate effects of social interaction intervention are well established, their generalized and long-term effects remain inadequately documented (Chandler et al., 1992; Fox et al., 1989; Odom et al., 1992).

An important review of published research addressing generalization and maintenance of social behavior change was conducted by Fox et al. (1989). Although the published reports are generally positive with regard to generalization and maintenance effects, several problems are noted in the current status of generalization and maintenance research. First, in spite of an increase in the number of studies addressing generalization and maintenance since the mid-sixties, a decline is noted in more recent years. This seems to imply that an adequate research base has been established, which is certainly not the case. Second, few of the published studies referring to generalization and maintenance employ any specific strategies to promote generalization and maintenance. Furthermore, when a strategy is used, it is often that of train and hope (Stokes & Baer, 1977). This is

not considered a legitimate strategy as much as an assumption that generalization will occur automatically. We know that generalization does not always occur automatically. We do not yet know which variables associated with intervention are more likely to result in the generalization and maintenance of intervention effects. A third problem with the status of this area of research in the late 1980s is the frequent lack of procedural descriptions of generalization programming strategies. While these methodological weakness are being addressed, the technical merit of many investigations is limited by the lack of well-defined procedures.

Strategies to Promote Generalization and Maintenance

The technology of research aimed at the generalization and maintenance of social skills has improved in recent years. Beginning with Stokes and Baer's nine basic strategies to promote generalization and maintenance (1977), other researchers have sought to refine procedural descriptions of specific programming strategies (Chandler, 1992; Chandler et al., 1992; Michelson & Mannarino, 1986). The most commonly identified procedures to promote generalization and maintenance of social interaction skills include:

1. Teach functional target behaviors that will be supported by the natural environment

2. Program common physical and social stimuli

3. Use peers as change agents

4. Specify a training criterion

5. Train loosely, under varied conditions; use sufficient exemplars, and a variety of responses

6. Use indiscriminable contingencies; fade training consequences to approximate natural contingencies

7. Train to generalize by reinforcing new appropriate applications

8. Reinforce accurate self-reports of performance

9. Recruit natural communities of reinforcement

10. Use sequential modification

Need for Further Research

Current wisdom states that the generalization and maintenance of changes in social behavior are critical to the ultimate success of any social skills intervention program (Chandler et al., 1992; McConnell, McEvoy, & Odom, 1992; Stokes & Osnes, 1987; Strain et al., 1986). Rather than assuming it will occur, specific strategies to promote generalization and maintenance should be programmed into the intervention process. While recent advances in the technology of generalization have occurred, the number of generalization studies remains limited. Chandler (1992) speculates that this might be because few studies include generalization or maintenance as a goal of intervention. The need for social skills intervention that includes specific

generalization strategies is critical. Expert opinion holds that future research should address the systematic analysis of specific programming which produces generalized and long-term changes in social behavior (Chandler et al., 1992; Fox et al., 1989; Fox et al., 1992).

CHAPTER III

METHOD

Subjects

Subjects of the study were 23 children enrolled in the Chapter I Pre-Kindergarten program in Greensboro Public Schools. This program serves children who are judged to be at risk for learning difficulties and are eligible for placement based on their score of 49%ile or below on the DIAL-R, Developmental Indicators for the Assessment of Learning-Revised (Mardell-Czudnowski & Goldenberg, 1983).

Six pre-kindergarten classes were selected for participation in the study. Of twelve existing classes, eleven teachers volunteered to participate. Six teachers were selected at random from the volunteer pool of eleven through use of a table of random digits. Participating teachers were six female teachers who had earned Bachelor of Arts degrees and had attained pre-kindergarten certification. Two of the six had earned Master of Education degrees, and one was nearing completion of a Ph. D. in elementary education. These teachers had an average of 16 years' teaching experience.

Twenty-four children were selected as subjects of the study. Participating teachers were asked to rank their

respective class of 16 children with regard to social skills as observed during peer interactions. Children were ranked according to the overall quality of social exchanges with their classmates during free play and other periods of child initiated activity. Each teacher then identified six children with lowest rankings in positive social interactions. Teacher nomination, essentially a subjective evaluation, was verified with quantitative measures. To accomplish this, baseline data were collected through the use of video taped segments of naturally occurring free-play periods in the classroom. A combination of measures was employed in the final selection of subjects. Baseline observation of rates of child-child social interaction, along with teacher rankings, were examined by the principal investigator, who then narrowed the number of subjects to four per class, for a total of 24. Final selection was based on lowest numbers of positive initiations. Low initiation rates observed during subject selection substantiated teacher rankings, with final selection by the researcher corresponding with those children ranked lowest by their teachers. Sixteen males and eight females, ranging in age from 4 years 5 months to 5 years one month, were selected as participants in the study. Examination of enrollment figures verified a majority of males in each of the participating classes, with percentages ranging from 62% to 75% male in the

six classes. Racial mix was 92% black and 8% white, a proportion which is generally representative of the racial balance of the Chapter I Pre-Kindergarten program in Greensboro Public Schools. One child was withdrawn from the study because of an extended illness, resulting in a total of 23 subjects.

For three of the six classes, certain peers were actively engaged in intervention procedures. A pool of six socially competent peers was established in each of the three classes according to teacher judgment of social competence and ability to follow teacher directions. The peer group was larger than the subject group because the availability of extra peers reduced the likelihood of scheduling difficulties due to peer absences. Additional socially competent peers also facilitated a less contrived free play setting in that a peer might choose to play with someone other than a target child for any given observation period. Peers were matched with subjects by the teacher daily on the basis of willingness on the part of the peer to participate and physical proximity to the subject during free play.

Setting

Research was conducted in pre-kindergarten classrooms that are appropriately equipped and arranged to meet developmental needs of at-risk preschool children. Daily routines for typical pre-kindergarten classrooms normally

include circle time. Circle time activities are typically conducted by the teacher with the entire group of 16, usually in a carpeted corner of the room. Routine circle activities normally consist of any combination of stories, songs, games, group discussions and opportunities for individual children to share with their classmates. For this study, the *intervention setting* is defined as circle time.

The *non-intervention setting* is defined as that period of time during which the children are engaged in free play. The free play condition was characterized by child-initiated rather than teacher-directed activities and typically occurred in the larger arena afforded by the entire classroom, occasionally extending to the playground. During free play each child was allowed to choose from a wide array of developmentally appropriate games, toys and other materials available. These activities and materials were located in various centers throughout the classroom and arranged for easy access to facilitate self selection. Typical centers in developmentally appropriate pre-kindergarten classrooms include blocks, manipulatives, sand, water, art, dramatic play/housekeeping, and a quiet center including books, tapes, soft furniture and stuffed animals.

Definition of Terms

This study examined two approaches to the generalization of social skills: Programming Common Social Stimuli and Train

to Generalize. The major difference between the two strategies, for purposes of this study, is that the Programming of Common Social Stimuli approach directs generalization training to peers, while this particular use of the Train to Generalize approach directs generalization training to target children.

Programming Common Stimuli refers to an approach to generalization identified by Stokes and Baer (1977) as one of nine generalization promotion techniques. Common stimuli can refer to physical stimuli (e.g. instructional materials, toys, furniture) or social stimuli (e.g. interactions with teachers or classmates) that are present in the training setting and also introduced into the generalization setting. For purposes of this study, socially competent peers in this treatment group (CSS) served as the stimuli common to both training and generalization settings, thus combining elements of two generalization strategies: Program Common Stimuli and Use Peers as Change Agents. Socially competent peers were instructed to "help (child's name) to be a good friend" during free play. These generalization prompts were directed specifically to the peers as the children began free play on training days.

Train to Generalize is an approach to intervention which directly teaches generalization skills in addition to teaching social interaction skills (Stokes & Baer, 1977). It

involves the systematic use of instructions that facilitate generalization and often includes a reinforcement contingency. For purposes of this study, general instructions to "remember to be a good friend while you're playing" were addressed to each target child at the close of each training session and again as the child entered the free play setting on training days.

Friendship Activities were developed by Twardosz et al. (1983) and adapted by Niemeyer et al. (1990) for use in increasing positive social interactions among preschool children with disabilities. This study extended their use to the "at risk" preschool population. The activities were conducted by the teacher during regularly scheduled circle time and included typical preschool songs, games and activities that were modified to include prompts designed to promote the generalization of positive social interaction to the non-intervention setting. Intervention included general reminders to "show each other what good friends we are" and "help each other to be good friends," as well as specific prompts such as "give (child's name) a pat on the back," and "ask (child's name) if he would like you to be his friend." (See Appendices C & E for other examples).

Social competence is defined as a child's effectiveness in influencing peer social behavior and the appropriateness of the child's behavior in a particular context or setting.

of the child's behavior in a particular context or setting. Specific behaviors related to social competence under examination include initiations, responses, and negative, or inappropriate behaviors. Social interactions with peers that are sustained for more than five seconds are considered a behavior related to social competence. Table 1 presents further definitions of generalization, maintenance, initiation, response, interaction and negative behaviors related to social competence.

Training

Participating teachers were trained in the use of Friendship Activities, a series of group socialization activities designed to promote positive social interaction among young children (see Appendix A). Teachers were instructed to implement Friendship Activities in their respective classrooms for approximately ten minutes per day, four days per week, for four weeks during January and February, for a total of 16 sessions. Friendship Activities were implemented with the total class of 16 children, however teachers were asked to ensure that each of the four target children within the group was actively encouraged to participate. For example, teachers were asked to call on target children who did not volunteer to engage as an active participant. When activities involved classmates selecting each other, children were prompted to select a target child

Table 1

Definition of Terms

Term	Definition
Generalization	the extent to which changes in target behaviors occur in a variety of other environments and spread to a variety of relevant behaviors.
Maintenance	the extent to which changes in target behaviors persist after training has been terminated.
Initiation	any motor or vocal behavior clearly directed toward another peer which attempts to elicit a social response.
Response	any motor or vocal behavior that acknowledges or replies to an initiation within five seconds of the initiation.
Interaction	a reciprocal social behavior that occurs as a result of an initiation-response-initiation sequence.
Negative	any forceful motor or vocal behavior directing aggression or inappropriate behavior toward another individual.

if it appeared to the teacher that the target child was remaining passive during that activity.

Additionally, teachers were selectively trained in the use of specific generalization strategies. In the first treatment group (CSS) three of the participating teachers were trained to program common social stimuli (socially competent peers) as part of the intervention procedures (see

Appendix C). Teachers were instructed to prompt socially competent peers to help the less competent subjects interact positively with classmates in the non-intervention setting. For example, as children entered free play activities, a peer who had selected the same activity as a target child was prompted to "help __(child's name)__ to be a good friend in __(name of center or activity)__ today." Further instruction was given for teachers to praise peers who were observed following generalization prompts appropriately. Teachers were instructed to say to the peer, "I like the way you were helping __(child's name)__ to be good friend today," or "You were a really good friend to __(child's name)__. I think it helps him/her when you show him how to be a good friend." Teachers were provided a list of 20 suggested praise statements from which they might choose those most natural for them (see Appendix E).

The remaining three teachers received instruction in a "train to generalize" approach to intervention (see Appendix D) and comprised the second treatment group (TG). In contrast to the CSS group, TG teachers were instructed to direct training procedures (generalization prompts) toward the target children rather than toward peers. Teachers in the TG group were instructed further to use praise to reinforce unprompted generalization that was witnessed at any time during generalization sessions. Praise for unprompted

generalization was not limited to the target children as part of an effort to maintain as naturalistic a setting as possible. However, teachers were asked to remain especially alert to any such occurrences among the subjects of this study. As with the CSS group, TG teachers were provided the same list of 20 praise statements from which they might choose those most natural for them (see Appendix E).

Teacher training was conducted by the principal investigator according to the procedures outlined in Appendix F. The initial training session included a video-taped demonstration activity followed by practice sessions during which teachers conducted sample activities and critiqued each other. Observation was conducted by the principal investigator during the initial weeks of the study through a combination of videotapes and classroom visits. Additional training was available as needed on an individual basis, however it was not required.

Teacher Assistants in four of the participating classrooms were trained as videographers for their respective classes. Videotaping in the other two classrooms was done by two high school seniors who participated in the current research as part of their Senior Project. Training for these six videographers was conducted by the principal investigator according to the procedures outlined in Appendices H-K. Training included discussion of particular requirements

regarding scheduling, a demonstration of the use of a video camera, and practice in filming each other. Viewing of initial tapes resulted in further instruction as needed. This additional instruction consisted of a memo to each videographer noting whether subject identification during taping was sufficiently clear and whether timing of observations was precise as needed. Further instruction also was necessary to address the problem of absences. It was agreed that make-up observations would be accomplished as soon as possible after the child returned to school and could be added to that day's taping, provided that information was communicated to the researcher during the observation.

Videographers served solely as technicians and remained naive to the specific data being observed and recorded, thereby reducing the chance of contamination of data. While it is inevitable that some assistants might have drawn inferences concerning the focus of the observations, efforts were made to limit their specific knowledge of the focus of the study. It is for this reason that training of videographers was held separately from teacher training. Teachers were instructed further to minimize discussions with their assistants regarding details of intervention and generalization strategies.

Data recorder training procedures are outlined in Appendix L. A prospective graduate student was employed to

view the videotaped observations and record social interaction data. The data recorder was trained in the use of a computerized observation system, GETDAT (Niemeyer, Tapp, McEvoy, Wehby, & Ellis, 1989). Training was conducted by the principal investigator and included detailed instruction in the use of the lap-top computer, explanation of observation codes, guided practice and independent practice. Additional instruction was available, however none was necessary.

Observational Procedures

Video-taped observations were conducted in each classroom by trained videographers. Observation consisted of five minutes of taping per subject for each scheduled observation date (see Appendix K). Baseline data were collected in January. Video-taped observations continued throughout intervention, during fading of generalization prompts, and again at one-month and three-month intervals. After four observations during baseline, there were three observations per subject per week for eight weeks, including intervention, generalization and maintenance phases of the study. This observation schedule resulted in 28 data points for each subject.

Videotaping of individual subjects was done during naturally occurring free play, and began with practice sessions to familiarize the children with the videotaping process, thus reducing the extent to which the observation

process was intrusive. The number of practice sessions was determined individually for each class by the teacher and videographer, typically two or three per class. Time of day for observations of free play was established prior to the beginning of the study and was consistent for each class. For the sake of consistency across all classes throughout the project, all observations were taped between 8:00 and 10:00 a.m.

Recorded segments for subjects of the study were assessed by a trained data recorder using a computerized observation system, GETDAT (Niemeyer et al., 1989). Child-child social interaction in the free play setting was observed and recorded on a lap-top computer. Specific behaviors recorded were social initiations, social responses, and negative initiations/responses (see Table 1 for descriptions). Frequency of initiations and responses were calculated, as was duration of social interactions for each subject.

Interobserver agreement was established at the 90% level during data recorder training. Videotapes of children engaged in free play were used for training purposes, with the principal investigator's simultaneous recording of data setting the standard for agreement. Rely checks were conducted for 25% of the observations with simultaneous recording by the data recorder and the principal

investigator. The two recorded observations were judged to be in agreement if both observers recorded the behavior in question within three seconds of each other. Likewise, duration data were in agreement if they were within three seconds of each other. A point by point procedure was used to calculate the percentage of interobserver agreement for each phase of the study. Interobserver reliability was calculated by dividing the number of agreements by the number of agreements plus the number of disagreements and multiplying by 100, yielding a percentage of interobserver agreement.

Design

The current research project utilized a multiple baseline across groups design to compare the relative merits of two approaches to specific programming for the generalization of social interaction skills to a non-intervention setting, and maintenance of these skills over time in a non-intervention setting. During baseline and prior to intervention, 36 potential subjects were videotaped for five minutes per day for four days. After the final selection of 24 subjects, two treatment groups (Common Social Stimuli, CSS, and Train to Generalize, TG) were formed by random drawings. Each treatment group consisted of three classes, each of which initiated the inclusion of generalization strategies at different times. Teachers of

classes CSS-1 and TG-1 implemented Friendship Activities for one week prior to the addition of strategies to promote generalization. Classes CSS-2 and TG-2 added generalization strategies after two weeks of Friendship Activities. The remaining classes, CSS-3 and TG-3, implemented three weeks of Friendship Activities before adding generalization strategies. The fourth week of Friendship Activities included generalization strategies for all subjects. Friendship Activities were terminated at the end of the fourth week for all classes. During the generalization phase, prompts decreased from the intervention rate of four per week for each target child to two per week during week #5, and to one prompt per target child during week #6. The generalization phase ended with the sixth week and teachers were instructed to cease the generalization prompts employed as part of this study. Maintenance probes were conducted at one-month and at three-month intervals. These probes consisted only of observation of the subjects engaged in free play, with no prompts or related statements on the part of the teacher. Three observations were conducted for each of the two weeks of the maintenance phase.

Data Analysis

Data were examined for each phase of the study with focus on the frequency and duration of child-child social interactions. Duration of social interaction in the free

play setting was analyzed first for each subject throughout the study. Individual subject data were summarized for each class yielding a class mean on this measure. Similarly, frequency of social initiation and response was then analyzed for each subject and summarized for each class. A third measure, frequency of negative initiations and responses, was analyzed for each subject and each class. Although negative interactions were counted, this measure was not judged to be important to the outcomes of this study. Class group data were summarized and class means were then collapsed into treatment group means. Group comparisons were then made to examine the effects of the specific generalization strategies employed in this study.

Data analysis initially consisted of visual inspection of graphic representations of mean frequency and mean duration of social interaction for each class for each phase of the study. T-tests were employed to determine whether the differences in group mean between phases were significant. Two treatment groups were compared initially through visual inspection of graphic data. Again, t-tests were employed for each phase of the study to determine whether the differences between the two group means were significant.

CHAPTER IV

RESULTS

The current research project was designed to examine the relative merits of two approaches to enhancing the generalization and maintenance of social skills for at risk preschool children. More specifically, it addressed the extent to which *train to generalize* and the *use of socially competent peers*, when combined with direct social interaction intervention procedures, would result in increased generalization and maintenance of social skills. The study further examined whether either of the two approaches results in greater gains than the other.

Interobserver Agreement

Table 2 presents interobserver agreement across three measures for each phase of the study. Agreement during the baseline phase was .99 (range = .91 - 1.0). Interobserver agreement during the intervention phase of the study was .86 (range = .25 - 1.0). During the maintenance phase, interobserver agreement was .99 (range = .94 - 1.0). Overall percentage of interobserver agreement was .94.

Initiation and Response Data

These data refer to the frequency with which subjects engaged in a social initiation or response involving another

Table 2

Percentages of Interobserver Agreement

	Baseline	Intervention	Maintenance
Duration	.99 (.99-1.0)	.99 (.98-.99)	.99
Frequency of Initiation and Response	.98 (.91-1.0)	.97 (.84-1.0)	.98 (.94-.98)
Negative Initiation and Response	1.0 (.25-1.0)	.63	1.0
Phase Mean	.99 (.91-1.0)	.86 (.25-1.0)	.99 (.94-1.0)

child. All initiations and responses were counted except for those occurring within a social interaction. Once a subject became engaged in a social interaction for more than five seconds, further initiations and responses were not counted until the interaction ceased. Individual data were summarized and class means were calculated for each of 28 observations. These data were collapsed to yield class means for each phase of the study. Figure 1 depicts class mean

initiation and response per observation (I/R) data for three TG classes.

The mean rate of initiation/response for four baseline observations was 3.3 (range = 1.8 - 4.8), 4.3 (range = 1.8 - 7.8), and 5.1 (range = 4.3 - 6.3) for TG-2, TG-2 and TG-3 respectively. As depicted in Figure 1, mean rates of initiation/response increased for each TG class as Friendship Activities were implemented, resulting in phase means of 6.3 (range = 4.0 - 7.8) for TG-1, 7.5 (range = 5.3 - 9.5) for TG-2 and 7.2 (range = 5.6 - 9.3) for TG-3. During the intervention phase, initiation/response rates for TG-1 decreased to a phase mean of 5.7 (range = 3.5 - 8.5). TG-2 experienced an increased mean of 7.8 (range = 5.8 - 9.5), while the phase mean for TG-3 decreased to 6.7 (range = 4.7 - 9.3). The generalization phase mean for TG-1 was 5.1 (range = 3.5 - 6.5), 6.3 (range = 3.5 - 9.0) for TG-2, and 5.7 (range = 3.0 - 8.6) for TG-3. Finally, maintenance observations yielded increased TG class means of 7.5 (range = 4.0 - 9.3) for TG-1, 7.0 (range = 6.0 - 8.0) for TG-2 and 6.4 (range = 4.0 - 8.3).

Initiation/response data for three CSS groups are similarly presented in Figure 2. Baseline I/R means for CSS-1, CSS-2 and CSS-3 are, in order, 3.0 (range = 1.8 - 3.8), 3.7 (range = 2.8 - 5.5), and 2.2 (range = 1.0 - 4.0).

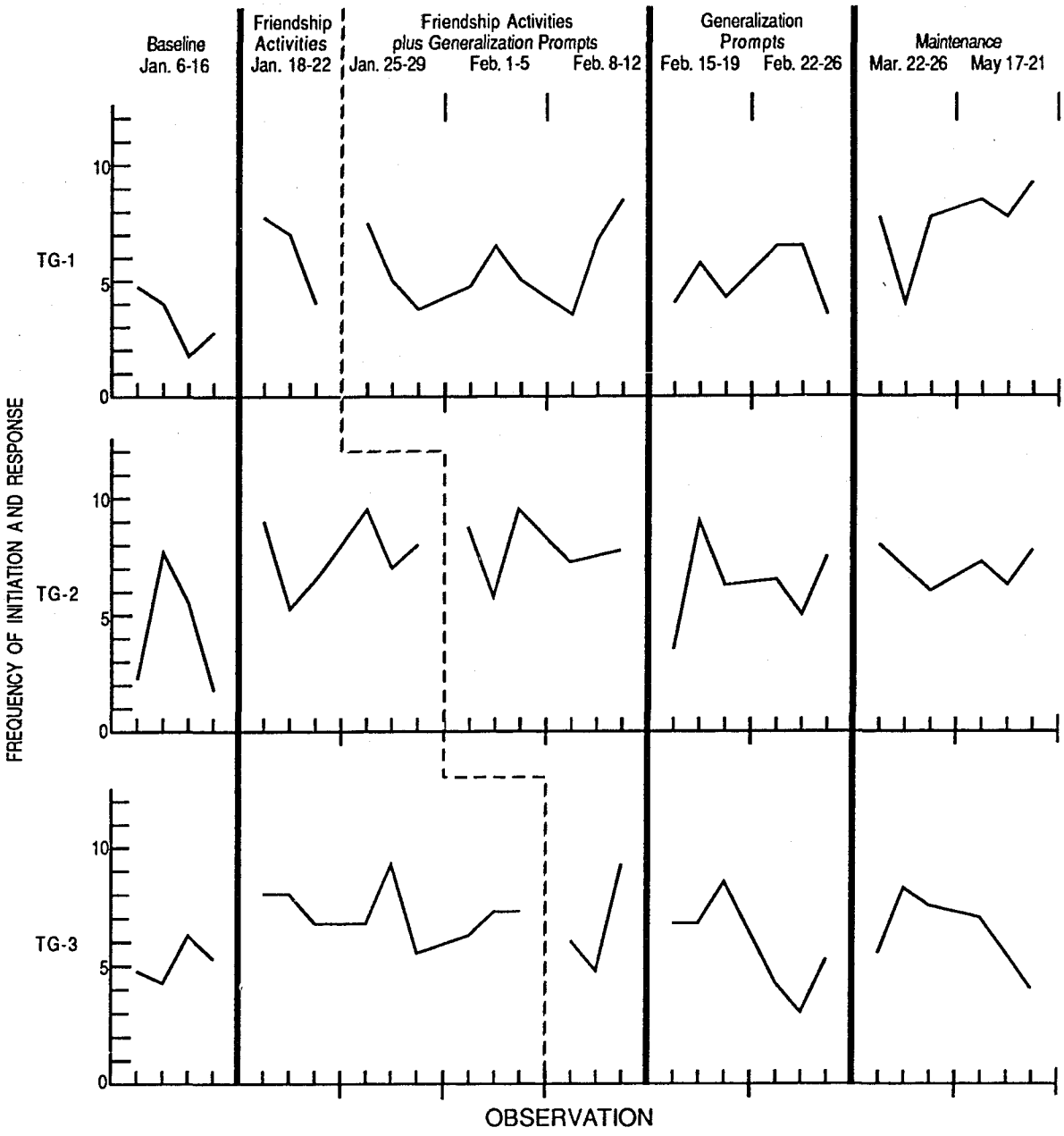

Figure 1. Mean Frequency of Initiation and Response for Three TG Classes

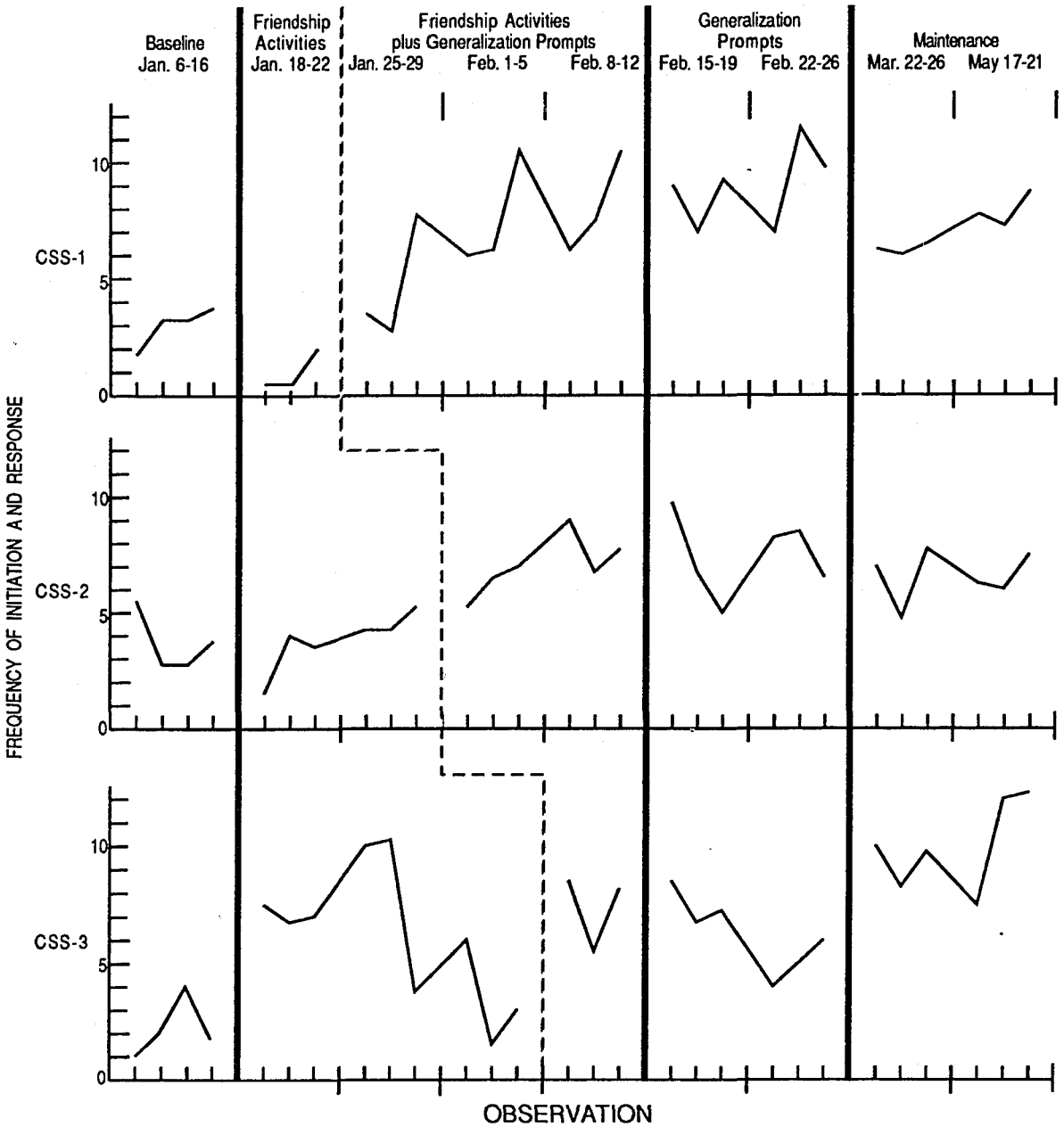

Figure 2. Mean Frequency of Initiation and Response for Three CSS Classes

During Friendship Activities, CSS means were 1.0 (range = .5 - 2.0) for CSS-1, 3.9 (range = 1.5 - 5.3) for CSS-2 and 6.2 (range = 1.5 - 10.3) for CSS-3. Intervention phase means increased for all three CSS classes, with a mean of 6.7 (range = 2.75 - 10.5) for CSS-1, 7.0 (range = 5.3 - 9.0) for CSS-2 and 7.4 (range = 5.5 - 8.5) for CSS-3. While I/R rates for CSS-1 and CSS-2 increased during the generalization phase, 8.9 (range = 7.0 - 11.5) and 7.5 (range = 5.0 - 9.8) respectively, the mean for CSS-3 during generalization decreased to 6.3 (range = 4.0 - 8.5). Conversely, for maintenance observations, CSS-1 and CSS-2 I/R means decreased to 7.1 (range = 6.0 - 8.8) and 6.5 (range = 4.8 - 7.8) respectively, while the maintenance phase mean for CSS-3 increased to 10.0 (range = 7.5 - 12.3).

Table 3 reports overall group means as well as class means, facilitating a comparison of the two treatment groups on the initiation/response measure. Baseline observations showed a higher group rate of social initiations and responses for TG (4.2, range = 1.8 - 7.8) than for CSS (2.9, range = 1.0 - 5.5). Likewise, during the implementation of Friendship Activities and prior to intervention, the mean I/R rate was higher for TG (7.0, range = 4.0 - 9.5) than for CSS (3.7, range = .5 - 10.3). Mean I/R rates during intervention, however, decreased for TG (6.7, range = 3.5 - 9.5) while increasing for CSS (7.0, range = 2.75 - 10.5).

Table 3

Mean Frequency and Duration of Social Interaction for Three TG Classes and Three CSS Classes

	Phase				
Class	Baseline	Fr.Act.	Intervention	Generalization	Maintenance
TG1					
Freq (#)	3.3	6.3	5.7	5.1	7.5
Dur (sec.)	29.4	58.0	83.5	69.8	112.3
TG2					
Freq (#)	4.3	7.5	7.8	6.3	7.0
Dur (sec.)	26.3	99.9	72.2	111.8	108.7
TG3					
Freq (#)	5.1	7.2	6.7	5.7	6.4
Dur (sec.)	23.3	90.9	142.4	88.1	90.3
TG Group					
Freq (#)	4.2	7.0	6.7	5.7	6.9
Dur (sec.)	26.3	82.9	99.4	89.9	103.8
CSS1					
Freq (#)	3.0	1.0	6.7	8.9	7.1
Dur (sec.)	14.2	2.8	64.9	93.1	143.4
CSS2					
Freq (#)	3.7	3.8	7.0	7.5	6.5
Dur (sec.)	19.9	10.5	136.4	121.4	108.1
CSS3					
Freq (#)	2.2	6.2	7.4	6.3	10.0
Dur (sec.)	1.4	12.6	30.7	32.2	118.8
CSS Group					
Freq (#)	2.9	3.7	7.0	7.6	7.9
Dur (sec.)	11.8	8.6	77.3	82.2	123.4

Further decrease was noted during the generalization phase for TG (5.7, range = 3.0 - 9.0) while some continued increase was noted for CSS (7.6, range = 4.0 - 11.5). Both groups showed increased rates of initiation/response during maintenance observations, with a group mean of 6.9 (range = 4.0 - 9.3) for TG and a CSS group mean of 7.9 (range = 4.8 - 12.3).

The frequency of negative social initiations and responses was also recorded during observations. As summarized in Table 4, the percentage of overall initiations and responses that were negative in quality decreased for all six classes. The percentage of negative I/R decreased from 24% to 2% for TG-1, from 30% to 3% for TG-2, and from 9% to zero for TG-3. Overall TG group mean percentage of negative I/R decreased from 21% to 2%. Decreases in negative initiations and responses were also noted for CSS classes. As shown in Table 4, CSS-1 decreased negatives from 31% to zero, CSS-2 decreased from 42% to zero, and CSS-3 decreased from 69% to 2%. Overall CSS group mean percentage of negatives decreased from 47% to 1%.

Duration Data

The number of seconds each target child was engaged in sustained social interaction, i.e., more than five seconds, was recorded for each subject for all observations. Individual subject data were then summarized for each class,

Table 4

Mean Frequency and Percent Overall of Negative Initiations and Responses for Three TG Classes and Three CSS Classes

	Phase				
Class	Baseline	Fr.Act.	Intervention	Generalization	Maintenance
TG1					
Frequency	3.25	2.5	1.17	.75	.5
(% neg)	(.24)	(.11)	(.07)	(.05)	(.02)
TG2					
Frequency	5.25	1.25	.75	1.38	.63
(% neg)	(.30)	(.05)	(.03)	(.07)	(.03)
TG3					
Frequency	2.0	1.22	.66	0.0	0.0
(% neg)	(.09)	(.05)	(.03)		
TG Group					
Frequency	3.5	1.66	.86	.71	.38
(% neg)	(.21)	(.07)	(.04)	(.04)	(.02)
CSS1					
Frequency	3.75	1.25	2.75	1.13	0.0
(% neg.)	(.31)	(.45)	(.15)	(.05)	0.0
CSS2					
Frequency	6.0	0.0	0.0	.13	0.0
(% neg)	(.42)	0.0	0.0	(.01)	0.0
CSS3					
Frequency	6.0	2.75	2.25	1.08	.63
(% neg)	(.69)	(.14)	(.11)	(.09)	(.02)
CSS Group					
Frequency	5.25	1.33	1.67	.78	.21
(% neg)	(.47)	(.20)	(.09)	(.15)	(.01)

yielding class means on the duration measure for each of 28 observations. Duration data were then collapsed to yield class means for each phase of the study. These data are presented graphically in Figures 3 and 4.

As noted in Figure 3, mean number of seconds of sustained social interaction during baseline for TG-1, TG-2 and TG-3 was, in order, 29.4 (range = 0.0 - 60.5), 26.3 (range = 0.0 - 70.0) and 23.3 (range = 14.0 - 30.3). These rates of duration increased for each class during the implementation of Friendship Activities, with a mean of 58.0 (range = 24.8 - 90.0) for TG-1, 99.9 (range = 52.5 - 146.0) for TG-2, and 90.9 (range = 30.0 - 174.7) for TG-3. During intervention, the mean duration rate for TG-1 increased to 83.5 seconds (range = 39.8 - 160.5) while mean duration for TG-2 decreased to 72.2 seconds (range = 8.3 - 122.3). Mean duration for TG-3 increased during intervention to 142.4 (range = 115.3 - 172). Duration rates during the generalization phase for TG-1, TG-2 and TG-3 were, in order, 69.8 (range = 6.5 - 143.8), 111.8 (range = 64.8 - 191.8) and 88.1 (range = 35 - 140.7). Maintenance observations noted duration rates of 112.3 (range = 50.8 - 158.5) seconds for TG-1, 108.7 (range = 65 - 164.8) for TG-2, and 90.3 (range = 34.3 - 142.0) for TG-3.

As depicted in Figure 4, baseline rates of duration of social interaction or CSS-1, CSS-2 and CSS-3 were 14.2

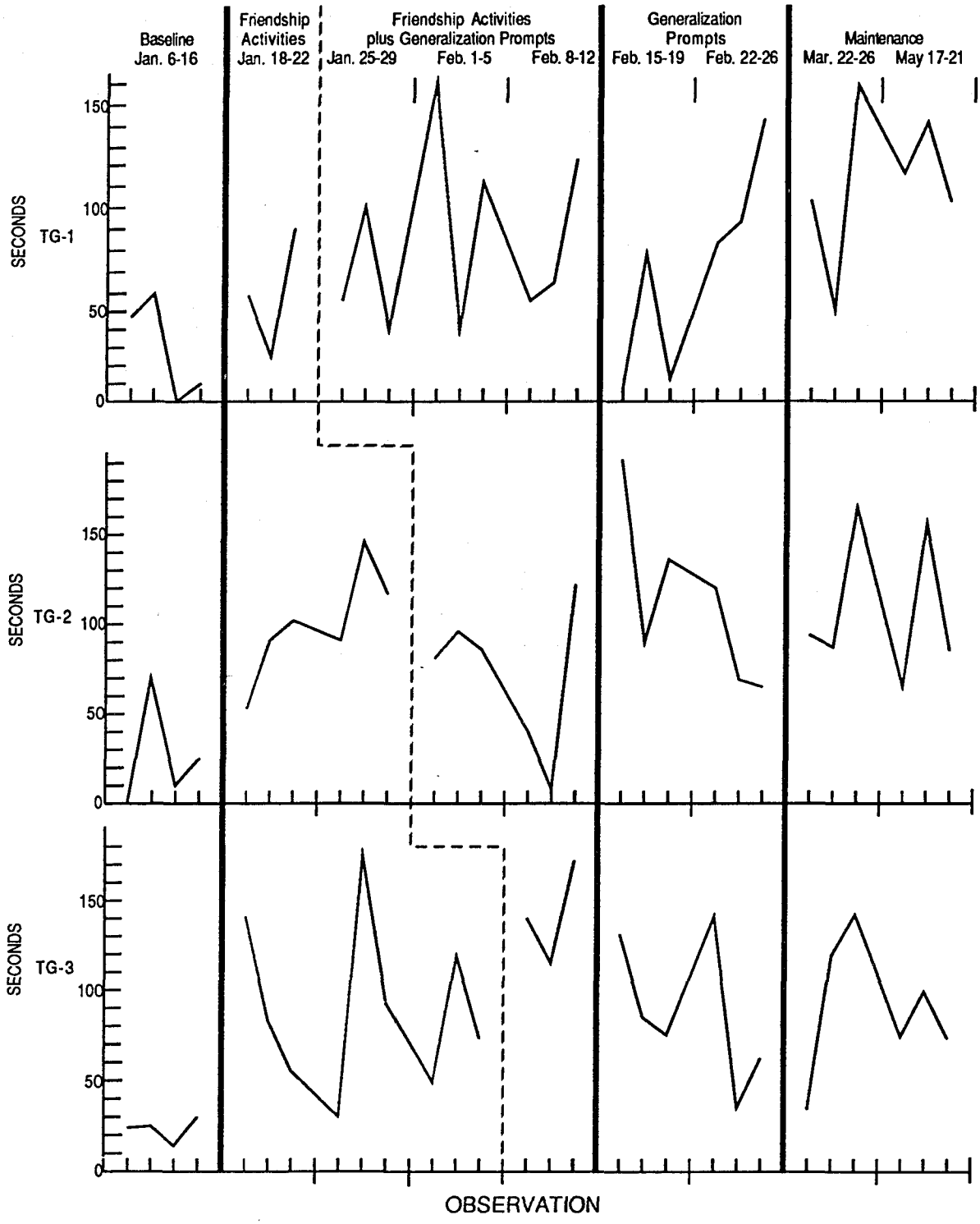

Figure 3. Mean Duration of Social Interaction for Three TG Classes

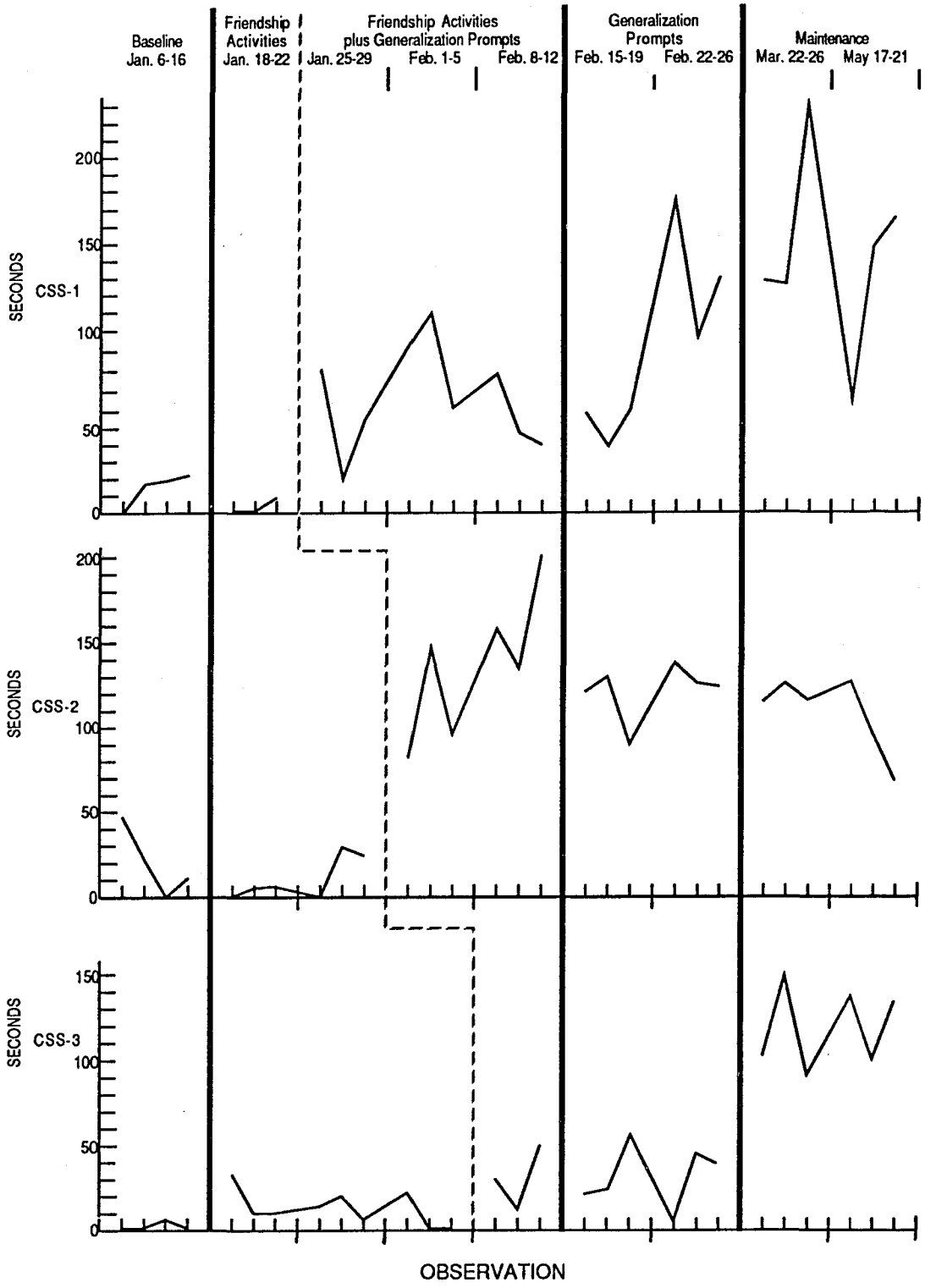

Figure 4. Mean Duration of Social Interaction for Three CSS Classes

(range = 0.0 - 21.5), 19.9 (range = 0.0 - 46.8) and 1.4 (range = 0.0 - 5.5) respectively. Class means for duration during the implementation of Friendship Activities decreased to 2.8 (range = 0.0 - 8.5) for CSS-1, to 10.5 (range = 0.0 - 28.5) for CSS-2, and increased to 12.6 (range = 6. - 33.3) for CSS-3. All three CSS classes increased their mean duration rates during the intervention phase. Mean duration rates during intervention for CSS-1, CSS-2 and CSS-3 were, in order, 64.9 (range = 19.5 - 109.3), 136.4 (range = 82.0 - 201.0) and 30.7 (range = 12.0 - 49.8). Generalization rates of duration increased to 93.1 (range = 38.8 - 174.5) for CSS-1, decreased to 121.4 (range 90.3 - 137.8) for CSS-2, and increased to 32.2 (range = 4.5 - 56.8) for CSS-3. Finally, CSS mean duration during maintenance observations were 143.4 (range = 64.8 - 229.8) for CSS-1, 108.1 (range = 68 - 127.3) for CSS-2, and 118.8 (range = 90.5 - 149.3) for CSS-3.

As with the initiation/response data, comparison of TG and CSS group means on the duration measure can also be noted on Table 3. Mean number of seconds of sustained social interaction at baseline was higher for the TG group at 26.3 (range 0.0 - 70.0) than for the CSS group at 11.8 (range 0.0 - 46.8). Again during Friendship Activities, mean duration for TG was higher at 82.9 seconds (range = 24.8 - 174.7) than the CSS duration mean at 8.6 (range = 0.0 - 33.3). During intervention, TG's duration rate increased to a mean of 99.4

(range = 8.3 - 172) while the mean duration for CSS increased to 77.3 (range = 19.5 - 201). Mean duration for TG during the generalization phase decreased to 89.9 (range = 6.5 - 191.8), while increasing for CSS to 82.2 (range = 4.5 - 174.5). Maintenance observations noted increases in mean duration for both groups, with 103.8 (range = 34.3 - 164.8) for TG and 123.4 (range = 64.8 - 229.8) for CSS.

Statistical Analysis

Further analysis of data between phases within groups and between treatment groups was achieved statistically. Since visual inspection of graphic data indicated some important results, T-tests were employed to determine whether any of the apparent group and phase differences were statistically significant. Table 5 summarizes the results of T-tests used to compare group means for the different phases of the study. As noted on Table 5, the TG group mean during Friendship Activities was significantly higher ($p<.0384$) than the mean during baseline for frequency of initiations and responses. TG also showed a significant gain ($p<.0352$) in frequency of initiation/response for the maintenance phase when compared to the generalization phase. Regarding the duration of sustained social interaction, the TG group again showed a significant increase in mean score for Friendship Activities as compared to baseline ($p<.0121$).

Table 5

Results of Paired T-tests for Within Group Comparison of Phase Means for Both Groups

Group/Measure	$\bar{X}$diff	T-test	Probability
TG/Frequency			
Baseline vs. Friendship Activities	5.86	2.38	.0384*
Friendship Activities vs. Intervention	-2.02	-1.07	.3079
Intervention vs. Generalization	-2.57	-2.08	.0646
Generalization vs. Maintenance	3.55	2.43	.0352*
TG/Duration			
Baseline vs. Friendship Activities	131.90	3.06	.0121*
Friendship Activities vs. Intervention	45.13	1.17	.2678
Intervention vs. Generalization	-13.08	-0.23	.8199
Generalization vs. Maintenance	44.64	0.99	.3460
CSS/Frequency			
Baseline vs. Friendship Activities	-0.96	-0.34	.7404
Friendship Activities vs. Intervention	9.61	3.32	.0067*
Intervention vs. Generalization	2.26	1.02	.3314
Generalization vs. Maintenance	0.92	0.38	.7130
CSS/Duration			
Baseline vs. Friendship Activities	-21.46	-1.31	.2176
Friendship Activities vs. Intervention	206.05	4.26	.0014*
Intervention vs. Generalization	8.11	0.35	.736
Generalization vs. Maintenance	125.62	2.30	.042*

Significant gains within the CSS group occurred during the intervention phase as compared to the Friendship Activities phase. This was true for frequency of initiation/response ($p<.0067$) and for duration of social interaction ($p<.0014$). Significant gains were also noted for

CSS on the duration measure when comparing the maintenance phase with the generalization phase.

Table 6 summarizes the results of T-tests used to compare the two treatment groups, TG and CSS on the frequency measure. When comparing group means during Friendship Activities, TG was significantly higher than CSS on the frequency (I/R) measure ($p<.0004$). Comparison of group means for the generalization phase, however, shows CSS to be significantly higher than TG in frequency of initiation/ response. Results of T-tests comparing the two treatment groups on the duration measure are displayed in Table 7. Group differences were found during the Friendship Activities phase, in which TG was significantly higher than CSS on the duration measure ($p<.0001$).

Table 6

Results of Independent T-tests Between TG and CSS Groups: Frequency of Social Initiation/Response

Phase	$\bar{X}$	SD	DF	T-test	Probability
Baseline					
TG	16.27	6.96	18.2	-1.77	0.09
CSS	11.75	5.07			
Friendship Activities					
TG	22.14	5.11	21.0	-4.21	0.0004*
CSS	10.79	7.47			
Intervention					
TG	20.11	4.51	21.0	.1259	0.9025
CSS	20.41	6.44			
Generalization					
TG	17.54	3.33	21.0	2.84	0.0097*
CSS	22.67	5.04			
Maintenance					
TG	21.09	5.75	21.0	1.27	0.219
CSS	24.00	5.26			

Table 7

Results of Independent T-Tests Between TG and CSS Groups: Duration of Social Interaction

Phase	$\bar{X}$	SD	DF	T-test	Probability
Baseline					
TG	106.27	122.6	13.4	-1.47	0.16
CSS	47.33	52.91			
Friendship Activities					
TG	238.15	86.05	10.9	-7.99	0.0001*
CSS	25.87	19.40			
Intervention					
TG	283	113.21	21.0	-.8615	0.3987
CSS	231	165.30			
Generalization					
TG	270.22	121.94	21.0	-.5633	0.5792
CSS	240.04	133.88			
Maintenance					
TG	314.86	134.24	21.0	.8504	0.4047
CSS	365.67	150.75			

CHAPTER V

DISCUSSION

Results of this study indicate that the benefits of social skills intervention are enhanced when specific instructional strategies are employed to promote the generalization and maintenance of such skills. Two strategies were selected for this study: train to generalize and train socially competent peers. The critical difference between the two approaches is that one directs instruction to the target child while the other trains socially competent peers. While both strategies were accompanied by increases in frequency and duration of social interaction, intervention effects were shown to be significant only for the procedure engaging peers (CSS).

Differences between the two treatment groups appeared at the onset of data analysis, and continued throughout the charting of data. Visual inspection of graphic data suggested that these differences might be important, therefore t-tests were employed to determine their significance. While it appeared that the CSS group was much lower than the TG group with regard to baseline levels of social competence, this difference was not determined to be

statistically significant. Likewise, group differences at the end of the study were not statistically significant.

As expected, both groups showed gains in frequency and duration of social interaction when Friendship Activities were implemented. This was not surprising and could be interpreted as further support for the use of such group socialization activities for social skills intervention with young children. Significant group differences were found during this phase, with TG showing higher rates of social interaction on both frequency and duration measures. However, it is important to recall that graphic data depict the CSS group as somewhat lower than TG on both measures at baseline. Although mean differences at baseline were not statistically significant, it is important to note that increases for CSS continue across the phases so that differences between the two groups diminish, with CSS eventually surpassing TG on both frequency and duration measures at the conclusion of the study. This trend was first noted during intervention, when the mean frequency for CSS increased to 7.0 compared to 6.7 for TG. Subsequently during generalization, the mean frequency for CSS continued to rise to 7.6 while mean frequency for TG decreased to 5.7. These increases for CSS were for frequency and not duration during the intervention and generalization phases. Finally, however, CSS means surpassed TG means on both frequency and duration measures during the maintenance phase of the study.

Visual inspection of graphic data clearly illustrates the effects of combining generalization strategies with social interaction intervention activities. The multiple baseline design of the study allows a precise analysis of intervention effects. All three CSS groups are shown to have experienced sharp increases in frequency and duration of social interaction when specific intervention procedures were paired with ongoing Friendship Activities. Moreover, the power of these intervention effects is further substantiated by the statistical significance of these findings, as reported earlier. In contrast, examination of graphic data for TG classes shows mixed results, with no significant results for the intervention phase.

A key feature of this research project is its investigation of intervention practices which are designed to promote the generalization of newly acquired social skills to other settings. Current findings suggest that systematic programming for the generalization of social skills is more effective than the use of social skills intervention alone. These results further suggest that the training of socially competent peers may be a useful strategy when attempting to promote generalization of social skills to non-intervention settings. It is important to note that the process of aggregating data generally results in the loss of some data. These results, however, do suggest some trends that might be

important to consider when programming for social competence for young children.

During the two-week generalization phase of the current project, Friendship Activities had ceased and fading intervention procedures (generalization prompts) were employed at the rate of two days for the first week and one day during the final week of the phase. Observed rates of social interaction were again found to be higher for CSS than for TG. On the frequency measure, all three TG classes were noted to have decreased means, while two of three CSS classes were observed to have increased I/R means, when compared to the prior intervention phase. Overall group mean frequency was decreased for TG and increased for CSS. Again, this difference in group mean frequency for this phase was found to be statistically significant. Mean duration, on the other hand, was higher for TG than for CSS during this phase, but not at a significant level.

The final phase of the research project addressed the question of whether the generalization procedures under investigation would also result in maintenance of social skills over time. Maintenance probes were conducted at one-month and three-month intervals. A surprising result of the study was the fact that group means on both measures again showed increase when compared to the prior generalization phase. It is during this final phase that CSS group means not only met those of TG, but also surpassed them. Increased

rates of CSS gains might in fact add support to the conclusion that training peers is the more effective of the two strategies under investigation. On the other hand, the fact that both groups experienced continued gains, even after all intervention procedures were terminated, could support another conclusion. Continued gains for both groups might be interpreted as evidence that, while choice of strategy might indeed be important, the particular strategy chosen might not be so important as the fact that a specific strategy is employed. In any case, it appears from this study that specific programming for generalization and maintenance might be more effective than the use of social skills intervention alone.

Careful examination of duration graphs, in conjunction with accompanying significance levels, supports the premise that positive changes in social competence occurred as a result of the combined intervention procedures selected for this research. Furthermore, it appears that the training of competent peers was more effective than directing instruction to target children in efforts improve social competence for these at-risk pre-kindergarten children. More maintenance observations over a longer period of time might have strengthened the power of these conclusions regarding the maintenance of social skills over time.

In addition to measures of frequency and duration, a third measure was included in this investigation. Social

initiations and responses that were judged to be negative in quality were also counted. Although these data are limited in number, it should be noted that in each of the six classrooms, the number of negative social initiations and responses declined over the course of the study. In fact, for three of the six classes, no negative events were observed during the final maintenance probe. While this may be important, and worthy of investigation in future research, any conclusions drawn from these limited data should remain tentative at best. Although it is possible that a decrease in negative behavior might in turn contribute to an increase in willingness on the part of classmates to initiate social interaction with the subjects, and to maintain interaction for a period of time, any conclusions about such correlations should be considered purely speculative until further examination.

Implications of the current research for teachers and other practitioners are several. First, the implementation of social skills intervention procedures should be approached with concern for whether newly acquired social interaction skills are generalized to other settings, and whether these new skills maintain over time. If commercially prepared intervention packages are used, selection should be based in part on the inclusion of strategies that are designed specifically to promote generalization and maintenance.

Second, teachers might wish to consider the importance of peer social interaction when designing learning activities for preschool children, especially those considered to be at risk for learning difficulties. Teachers and other practitioners can often promote positive social interaction by arranging activities that pair a low interacting child with a peer who is more socially competent. The current study further suggests that the actual training of peers can be an effective strategy to promote social competence for at-risk preschool children. Procedures for peer training can be as simple as a one-line prompt as children enter a routine activity or a new setting. If this is done deliberately, and on a routine basis, positive results are more likely to occur than if left to chance alone.

An important limitation of the current research is the lack of control for teacher effects. Control of teacher variables was beyond the scope of this study. The generalizability of these findings is also limited by the small sample size. A larger subject pool might have resulted in smaller standard deviations for treatment groups, likely yielding higher levels of statistical significance, hence more powerful treatment effects. In addition to problems inherent in the aggregating of data, another area of difficulty for the present study is the questionable stability of data. This lack of stability could be judged also as a result of the characteristics of the subjects as

well as the small sample size. Given the typical variability of social characteristics of four-year-olds, and the transitory nature of their interests, preferences and emotions, it is not surprising that wide variance would exist at any given data point. It is possible that a child who was observed engaging in no interaction during the five minutes of videotaping could indeed be observed engaging in repeated interactions just a few minutes later when the camera was focused on another child. Lack of stability of data could also be related to limitations in the number of observations conducted. Unfortunate time constraints caused the shift in phases of the study to be determined by schedule rather than by stability of data. Additional observations and corresponding data points no doubt would have improved the stability of data and therefore strengthened the current study. More observations also would have strengthened the power of any conclusions regarding the effects of intervention and the maintenance of these effects over time. Future investigations might benefit from an increase in the number of subjects and in the number of observations in order to achieve more data stability. Future research in this area no doubt would benefit from more frequent and longer term observations as well as a larger sample population.

An important contribution of the present investigation is its heuristic value. Questions are raised that might interest future researchers in the design of similar studies

which address the efficacy of similar generalization prompts combined with different social skills intervention procedures. Another interesting investigation might be that of exploring the relationship between negative social interaction behaviors and overall social competence using measures other that those employed in the current study. Indeed, the topic of social competence seems particularly appropriate for qualitative research efforts. It is possible that narratives from children could offer important insight into their own reasons for their social initiations and responses (or lack thereof) and their choices about when and for how long to sustain social interactions with their peers. Analysis of their discourse could prove invaluable also in looking at the factors that influence the positive or negative quality of their interactions with their peers.

In conclusion, the findings of the present study extend the somewhat limited literature on the effects of specific instructional strategies which are designed to promote the generalization and maintenance of social skills acquired through social interaction intervention. In addition, these data contribute to the literature addressing the effects of interventions which involve peer training. Finally, the current study extends previous social interaction research using Friendship Activities to include the at-risk preschool population.

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APPENDIX A

FRIENDSHIP ACTIVITIES

FRIENDSHIP ACTIVITIES

1. SIMON SAYS

Materials Needed: None
Group Context: Have students stand in a group before the teacher.

TRADITIONAL ACTIVITY

TEACHER: Today we are going to play a game called "Simon Says." Before we begin, I am going to tell you how to play, so everyone needs to listen very carefully. When we play this game, I will tell you to do different things with parts of your body. If I say "Simon Says," then do what I tell you to do. If I do not say "Simon Says," then you should not do what I tell you to do. Does anyone have any questions? Let's practice. Simon says turn around.

To those children who turn around, say: Great listening! You heard me say "Simon Says" and then you turned around. Terrific!

To those children who did not turn around, say: Whenever I say "Simon Says," you should follow Simon's directions. Do you understand? Let's try again. Touch your toes.

To those children who did not touch their toes, say: Thanks for paying such good attention. I did not say "Simon Says," and you did not touch your toes. Fantastic!

To those children who did touch their toes, say: I caught you! You touched your toes. Did I say "Simon Says"? No! Be sure to listen carefully. Remember, if I do not say "Simon Says," do not do what I say. Now, does everyone understand? Great! Let's keep playing.

Suggested commands to use when playing:

TOUCH YOUR NOSE	STOMP YOUR FEET	CLOSE YOUR EYES
PAT YOUR HEAD	TURN AROUND	PAT YOUR STOMACH
STAND ON ONE LEG	TOUCH YOUR TOES	SHAKE YOUR HEAD
JUMP UP AND DOWN	SIT DOWN	SHAKE YOUR HANDS
WAVE GOODBYE	STAND UP	SHAKE A LEG
CLAP YOUR HANDS	WIGGLE YOUR FINGERS	SHAKE YOUR FEET

FRIENDSHIP ACTIVITY

TEACHER: Today we are going to play "Simon Says," but we're going to change the game a little bit so that we can become better friends. (Discuss briefly the importance of friendship) Is everyone ready? Great! Simon says, (peer) give (target) five. Good, (peer), now you and (target) are great friends. Now everybody, Simon says give your neighbor a hug. Now, (target), say something nice to (peer). [Prompt children when they need help.] Fantastic listening! Everyone, pat your neighbor on the back. Oops! I didn't say "Simon Says". Now everyone, Simon says smile at your neighbor. You are all doing such a good job of listening and following Simon's directions. (Continue playing, using other appropriate friendship prompts and praise statements.)

2. IF YOU'RE HAPPY AND YOU KNOW IT

Materials Needed: None
Group Context: Have students sit in a circle with the teacher

TRADITIONAL ACTIVITY

TEACHER: Today we are going to sing a song that tells us to do different things with our bodies, so you will need to listen very carefully. (Begin singing, praising students for participating, following directions, and singing.)

1. If you're happy and you know it clap your hands. (CLAP HANDS)
   If you're happy and you know it clap your hands. (CLAP HANDS)
   If you're happy and you know it, then your face will surely show it,
   If you're happy and you know it clap your hands (CLAP HANDS).

2. If you're happy and you know it stomp your feet..... (STOMP FEET)

3 If you're happy and you know it shout hooray..... (SHOUT HOORAY)

FRIENDSHIP ACTIVITY

TEACHER: Today we're going to sing "If You're Happy and You Know It," but we're going to change the words, so that we are being good friends while we play! (Use a variety of praise phrases and group socialization prompts while singing.)

1. If you're happy and you know it,
   shake (target child's) hand... (SHAKE HANDS)

2. If you're happy and you know it,
   hug a friend... (HUG FRIEND)

(Continue singing, using prompts and target children's names.)

3. MUSICAL CHAIRS

Materials Needed: One chair for each child and tape player or record player
Group Context: Place chairs in a a circle and have each student stand behind a chair

TRADITIONAL ACTIVITY

TEACHER: Today we will be playing "Musical Chairs," so we will be listening to music while we play the game. When the music begins, everybody will walk in a circle around the chairs. When the music stops, you will sit down in any chair that is empty. Only one person can sit in a chair. I will then take one chair away, and we will start the music again. This time, when the music stops, everyone tries to sit in a chair, but one person will not get a chair. Whoever does not sit in a chair will come sit with me for the rest of the game. I will continue to take one chair away each time the music stops, so that one more person will not get a chair and will come sit with me. (Begin game, helping children when needed and praising when appropriate.)

FRIENDSHIP ACTIVITY

TEACHER: Today we are going to play "Musical Chairs," but whoever does not sit in a chair must show the rest of the group what good friends we are before coming to sit with me. I will tell that person something to do to be a better friend. (Begin game, praising and prompting when needed.)

To the student who does not sit in a chair, say: _____, you did not get a chair, but you have lots of friends playing with you. Give everybody in the group five!

To the next student who does not sit in a chair, say: _____, pat everyone on the back before you come sit with me!

(The children without chairs respond to each peer with the appropriate group socialization prompt, then sit with the teacher. Continue the game using different socialization prompts each time until only one child is left. You might have all of the children clap for the winner. If the target child is out of the game early, keep prompting him/her to interact. For example, the target child who is out can be prompted to shake hands, pat on the back, etc., other children as they drop out of the game.

4. CAN YOU DO WHAT I DO?

Materials Needed: None
Group Context: Have students sit in a semi-circle facing the teacher

TRADITIONAL ACTIVITY

TEACHER: Today we are going to sing a song called "Can You Do What I Do?"
I want everybody to sing with me. (Begin singing, while doing an easily imitated gesture in time with the music.)

Can you do what I do, I do, I do?
Can you do what I do, I do, I do?
Can you do what I do?
Just like me!

Suggested movements:

MARCH IN TIME WITH MUSIC	SNAP FINGERS
PAT HANDS ON STOMACH	CLAP HANDS
WAVE HANDS IN AIR	TURN IN CIRCLES
JUMP UP AND DOWN	SKIP TO MUSIC

FRIENDSHIP ACTIVITY

TEACHER: Today we are going to sing "Can You Do What I Do?" and learn how to be better friends! (Begin singing chant, while shaking target subject's hand.) Now, one at a time, I want everyone to take a turn and shake _____'s hand.

(All of the children take a turn shaking the target subject's hand. Continue singing, while patting a child on the back and prompting target child to do the same. Then prompt all of the children to pat either the target subject or their neighbor on the back. Continue playing, using appropriate prompts and praise statements. Be sure that each of the target subjects has had opportunities to give and to receive friendship gestures.)

5. HOKEY POKEY

Materials needed: None
Group Context: Have students stand in a circle with the teacher

TRADITIONAL ACTIVITY

TEACHER: We are going to sing a song today called the "Hokey Pokey." You are going to have to listen very carefully, because the words tell us about a dance we do while we sing this song. I want everyone to sing! (Begin singing, being very positive and enthusiastic.)

1. Put your right hand in,	(Put right hand in circle)
Put your right hand out,	(Put right hand outside circle)
Put your right hand in,	(Put right hand in circle
And you shake it all about	and shake it)
You do the Hokey Pokey	(With hands over head,
And you turn yourself around	turn around)
That's what it's all about!	(Clap hands twice)

2. Put your left hand in ...
3. Put your right foot in ...
4. Put your left foot in ...
5. Put your head in ...
6. Put your whole self in ...

FRIENDSHIP ACTIVITY

TEACHER: We are going to sing the "Hokey Pokey," and since we are such good friends, I am going to change the way we play, so listen carefully!
(Begin singing.)

1. Put your right hand in,
   Put your right hand out,
   Put your right hand in
   And you shake it all about.
   We play with special friends
   So (peer), shake hands with (target subject),
   That's what it's all about! BEING FRIENDS!! (Clap hands twice)

2. ... We play with special friends (Continue with various friendship
   So rub your neighbor's back ... gestures, praising when appropriate)

6. FOLLOW THE LEADER

Materials needed: None
Group context: Have students stand in a straight line, one behind another

TRADITIONAL ACTIVITY

TEACHER: Today we are going to play a game called "Follow the Leader." In this game, someone is the leader. Everyone else walks in a line behind the leader and does whatever the leader does. The leader may change activities as often as he likes. As we follow the leader, we are going to sing a song. I will be the first leader. (Begin singing, while clapping hands and marching in a circle.)

We're following the leader, the leader, the leader.
We're following the leader
Wherever he may go.

(After students understand the rules, let them take turns being the leader.)

Suggested Activities:

PAT HANDS ON HEAD	SWING ARMS AROUND
PAT HANDS ON SHOULDERS	JUMP
PAT HANDS ON STOMACH	WALK BACKWARDS
PAT HANDS ON KNEES	SKIP

FRIENDSHIP ACTIVITY

TEACHER: Today we are going to play "Follow the Leader" in a special way, so that we can be better friends. Come here (target subject) and let's play "Follow Me, Friend." (Target subject), show everybody what a good friend you can be and hold hands with the person behind you. Now, let's march around holding hands. Great! Who's going to be our next friendship leader? (Continue until all target subjects have had a turn, using various friendship gestures, such as high fives, smiles, etc. while marching. Activities can be done marching in place or moving in a circle.)

7. RING AROUND THE ROSES

Materials Needed: None
Group Context: Have students stand in a circle with the teacher.

TRADITIONAL ACTIVITY

TEACHER: Today we are going to sing "Ring Around the Roses." Listen carefully to the words of the song. (Begin singing.)

Ring around the roses
Pocket full of posies,
Ashes, ashes,
We all fall down!

Whenever we say "We all fall down," we are going to fall on the floor!

FRIENDSHIP ACTIVITY

TEACHER: Today we are going to play "Ring Around the Roses" a different way to help become good friends. Let's join hands and be great friends while we sing! (Begin singing.)

Ring around the roses,
Pocket full of posies,
Ashes, ashes,
We're all good friends!

Now (peer), pat (target) on the back. (Target), pat (another peer) on the back. Let's all be good friends and sing it again!

Ring around the roses,
Pocket full of posies,
Pat your neighbor on the back,
We're all good friends!

Ring around the roses,
Pocket full of posies,
Let's all smile at (target subject)
We're all good friends!

(Continue game, using additional friendship gestures.)

8. GOOD MORNING

Materials Needed: None
Group Context: Have students sit in a semi-circle, with one chair in front of the semicircle, facing away from the group.

TRADITIONAL ACTIVITY

TEACHER: Today we are going to play a game called "Good Morning." One of you will sit in the chair with his back to the rest of you. Then I will point to another one of you to say "Good Morning, _____." The one in the chair will try to guess who said "Good Morning," without peeking. I want all of you to listen very carefully to each other's voices, so that when it is your turn, you can guess who talked to you. Does everybody understand? Good! (Begin playing.)

FRIENDSHIP ACTIVITY

TEACHER: Today we're going to play "Good Morning" a different way, because we want to learn how to be great friends. Now, (target subject), cone here and sit in the chair.

(Point to a child and motion for that child to come up to the target subject. Direct the child to scratch the subject's back softly and say "Good Morning, (target subject)". Then motion to that child to sit down.)

Now, (target subject), try to guess who said "Good Morning" to you and scratched your back.

(After target subject guesses who said "Good Morning", say: (Target subject), go give (the peer who said "Good Morning" a big hug (or smile, etc.).

(Continue playing, using group socialization prompts both when saying "Good Morning" and after the child guesses.)

APPENDIX B

INSTRUCTIONS FOR CONDUCTING FRIENDSHIP ACTIVITIES

Instructions for Conducting Group Friendship Activities

1. Follow the schedule that has been provided for you. Certain aspects of the schedule are different for each participating teacher. If you misplace your schedule, please call me (288-4692) rather than asking a colleague for a copy of hers. It is **extremely important** that the schedule be followed carefully. For each of the four weeks of Friendship Activities, you may choose which four of five days you conduct the activities.

2. For two or three days prior to the beginning of Friendship Activities some circle time should be spent reading and discussing the ideas about friendship presented in the titles provided for you. This will provide a rationale and vocabulary that will be useful when conducting the activities.

3. You have been given a packet of 8 Friendship Activities. The activities do not need to be done in any particular order, however you should do each activity at least once before repeating any of them. You should be sure to do each activity at least twice during the four week period. A Friendship Activities Log will be provided to facilitate your recording of these activities. Plan to spend about 10 minutes each day on Friendship Activities on each of the 16 days scheduled.

4. DO NOT continue Friendship Activities after the fourth week. Certain prompts will be continued for a two-week period, but the activities themselves should cease. **This is very important to the design of this research project.** Even if the children ask for a certain game or song, try to divert their interest to another activity, or at least do the traditional version rather than the adapted one.

5. Active participation is extremely important to the effectiveness of these activities. Thus, all of them require the practice of affectionate or friendly behaviors in some way. It is also important that the children **watch** others participate. Those who are not having a turn at expressing friendship should be prompted to watch.

Although the activities will be conducted with your entire class, you will need to be sure that **each of the four target children in your class is encouraged to actively participate in each activity.** Target children should also be prompted to watch when it is no longer their turn.

6. The successful implementation of the activities is highly dependent on teachers' skill in constructing an interesting experience from the limited amount of information presented, and in keeping control of the activity while letting the children have **fun. In general, children should be allowed a little more freedom from constraints than during other types of group activities, but not enough to detract from the learning experience. There is a fine line to be drawn here that requires skill and good judgement. For example, while watching two children take their turn giving a** *gesture* of friendship children sitting in the circle will frequently do the same with those sitting beside them and such behavior should be considered appropriate.

7. Teachers should be alert for children who are rarely or never chosen to be the recipients friendship gestures. You can prompt other children to choose them or choose them yourself when it is your turn.

8. Children should be provided with opportunities and encouragement to participate but **should not be forced** to do so. If a child does not volunteer, the teacher should ask if he/she would like a turn. If the child does not wish to participate, the teacher should indicate that this is OK and that maybe the child will want to next time, and should proceed to the next child.

9. Teachers should be sensitive to the values of the community in which they work and promote the types of friendly and affectionate behaviors that would be acceptable to the children's parents. For example, some teachers feel that parents would not want boys to hug other boys. If such were the case, teachers could encourage boys to pat each other on the back, give five, or shake hands warmly.

10. Your thoughtful comments are welcome. If you have questions or comments at any time during the study, **please feel free** to call me at home (288-4692).

APPENDIX C

GENERALIZATION PROMPTS, CSS

The Use of Additional Friendship Prompts and Praise (CSS)

Group _____

Teacher _____

In addition to the use of Friendship Activities, you will use certain prompts, or reminders, to other children in your class, not your target children. Please be aware that these prompts and the schedules are not the same for all participating teachers, so if you have questions, please call me rather than seeking information from other teachers. You will use these prompts only during the weeks indicated below. They will continue for a short time after Friendship Activities have stopped and will fade out over a two-week period. As with the activities themselves, please do not continue the use of these particular prompts beyond the time indicated on your schedule. Resume teaching activities and instructions that are natural for you.

For each target child in your class:

1. As each target child enters the free play setting most closely following Circle Time, select a peer who is entering the same play area and instruct him/her to "Help __(target child)__ to be a good friend today". Discuss briefly the kinds of friendship behaviors that occurred in Circle that day, and tell the peer that he/she can "Teach _____ how to show other people he/she wants to be their friend". "Show _____ what to do".

2. Whenever you observe the peer helper engaging in overt behaviors that follow your instructions, don't interrupt the exchange, but make a mental note to reinforce the peer helping behavior with praise as soon as appropriate. Use words of praise that are natural for you, or choose from the list provided.

Use these prompts and praise during the following weeks:

APPENDIX D

GENERALIZATION PROMPTS, TG

GROUP SOCIALIZATION PROMPTS

Physical

Hug a friend
Pat _____ on the back
Pat _____ on the head
Pat _____ on the arm
Pat _____ on the foot
Pat your neighbor on the shoulder
Pat your friend on the knee
Hold hands
Shake hands
Give your friend a high five
Give _____ a low five
Scratch _____'s back
Put your arms around _____
Wink at a friend
Link arms with your neighbor
Touch shoulders with your friend
Touch elbows with _____

Verbal

Tell your neighbor hello
Tell _____that you like her
Tell _____ that you are his friend
Tell your friend that you love her
Tell your neighbor you're happy
Say something nice to _____
Give a compliment to _____
Tell _____ you like to play with him
Tell _____ you like her _____

PRAISE STATEMENTS

General	Specific
Great!	Great listening!
Good!	Good following directions!
Terrific!	Thank you for paying attention!
Fantastic!	Terrific singing!
Beautiful!	I like the way you gave _____ a hug!
Excellent!	You are being such good friends!
Super!	You are doing a beautiful job of playing together!
Wonderful!	You are working so nicely on becoming better friends!
All right!	You are behaving beautifully!
	I like the way you are sitting and listening while I explain the rules.
	You were such a good friend to _____ today.

APPENDIX F

FRIENDSHIP ACTIVITIES TEACHER TRAINING

Friendship Activities Teacher Training

I. Overview of Research Project

II. Schedule

III. Intervention Phase
   A. Friendship Activities
      1. Model activity - videotape
      2. Practice in groups of three (each teacher selects one activity to lead)
      3. Observe and discuss good and poor examples from videotape
   B. Group Instructions
   C. Questions and answers

IV. Generalization Phase
   A. List of prompt and praise statements
   B. Assign groups
   C. TG group instructions/CSS group break
   D. CSS group instructions/TG group break

V. Discussion of Videographers' Role

VI. Parent Consent Letters

VII. Questions and Answers

VIII. Monitoring and Additional Training
   A. At least one Friendship Activity will be taped for observation
   B. Additional training will be available if needed
   C. Principal investigator may visit classrooms on occasion

APPENDIX G

SCHEDULE OF INTERVENTION ACTIVITIES

SCHEDULE OF INTERVENTION ACTIVITIES

January 6-16, 1993	Baseline Observation (Observation only--graduate students)

January 18-February 12

January 18-22	Intervention Week #1/Observation
January 25-29	Intervention Week #2/Observation
February 1-5	Intervention Week #3/Observation
February 8-12	Intervention Week #4/Observation

For each intervention week, 4 (or more) Friendship Activities will be conducted by the teacher during Circle Time. Observation will take place 3 days per week by graduate students, during Free Play.

February 15-26

February 15-19	Generalization prompts/Observation
February 22-26	Generalization prompts/Observation

For these two weeks, Friendship Activities have stopped, but certain prompts continue. More information about these prompts will be given during our meeting.

March 22-26	Maintenance Probe (1 month)
May 17-21	Maintenance Probe (3 months)

Maintenance probes involve observation only by graduate students, no teacher involvement.

APPENDIX H

VIDEOGRAPHER TRAINING SESSION

Videographer Training Session

I. Overview of Research Project
II. Schedule
    A. Follow precisely
    B. Same time of day
    C. Initial practice sessions to get children accustomed to being filmed
III. Equipment
    A. Video camera
        1. Demonstrate
        2. Practice filming each other
    B. Tapes
        1. Check labels carefully
        2. Do not rewind
IV. Questions and Answers
V. Careful examination of first tapes, followed by additional training for individual videographers as needed.

APPENDIX I

INFORMATION FOR VIDEOGRAPHERS

Information for Videographers

Thanks for your willingness to help with my research project. Attached you will find the schedule for the videotaping of 4 children in your classroom. Please read all attached materials carefully. You are welcome to call me **at any time** if you have questions or if you run into any problems during this process.

1. Please follow the schedule as carefully as possible. You and your teacher may choose which 3 days per week the taping can be done, but please remember to keep the **time of day consistent.** All taping should be done between the hours of 8:00 to 10:00 a.m., during center-time or free-play.

2. It will be helpful if you spend some time **practicing first, not only to get used to the camera** yourself, but also to familiarize the children with the presence of the camera in the classroom.

3. When taping observations, please **identify the subject of the observation by calling his/**her name as you focus on the target child. Doing this early during the observation will help me as I record the observations later. You may tape continuously, without stopping between children, if you are sure to call the next child's name at the beginning of the next 5 minute period.

4. If the camera you are using can be set to record on **Extended Play, please do so. I will supply as many tapes as you need,** but it will be helpful to get as many weeks on one tape as possible.

If a full week's observations cannot be fit onto a tape, start a new tape for a new week.

You do not need to rewind the tapes.

5. **Check labels carefully so that the label on the tape is the same as the week on the schedule. This is especially important.** If the label does not match your schedule, please call me.

6. If target children are absent, you should make-up taping as soon as possible after they return. In cases of extended absences, call me and we'll discuss how to handle it. I will need to be sure of getting the **same number of videotaped observations for each child** in the study.

APPENDIX J

VIDEOGRAPHERS' SCHEDULE

Videographers' Schedule

January 6-16	Baseline Observation 4 subjects, 5 minutes per observation 4 observations per subject for this two-week period (total of 20 minutes per child for 4 children)
January 18-22	Intervention Week #1 4 subjects, 5 minutes each, 3 days
January 25-29	Intervention Week #2 4 subjects, 5 minutes each, 3 days
February 1-5	Intervention Week #3 Same as above
February 8-12	Intervention Week #4 Same as above
February 15-19	Week # 5 (Generalization) Same as above
February 22-26	Week #6 (Generalization) Same as above
March 22-26	Week # 7 (Maintenance Probe) Same as above
May 17-21	Week #8 (Maintenance Probe) Same as above

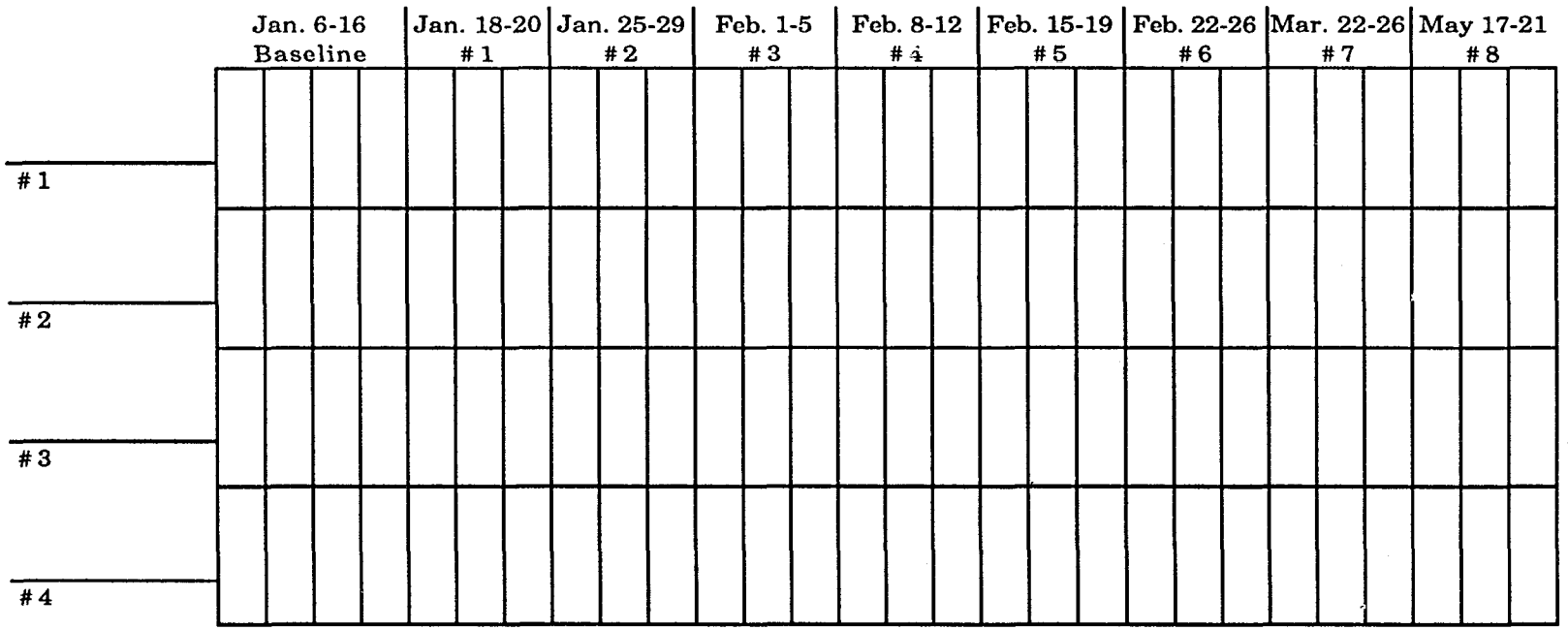
APPENDIX K

OBSERVATION CHECKLIST FOR VIDEOGRAPHERS

Observation Checklist for Videographers

Teacher _____ Group _____ Videographer _____

Target Child



Please enter the date in the appropriate box upon completion of each observation. Each box represents 5 minutes of videotape for that child.

APPENDIX L

DATA RECORDER TRAINING SESSIONS

Data Recorder Training Sessions

SESSION #1

I. Overview of Research Project
II. Schedule
III. Explanation of GETDAT
    A. Define terms
    B. Explain codes
    C. Practice coding on computer
IV. Videotaped Observations (from baseline observations)
    A. Practice identification of behaviors
        1. Initiations
        2. Response
        3. Interaction
        4. Negatives
    B. Guided practice coding behaviors using lap-top computers
    C. Discuss any difficulties
    D. Independent practice coding with computers
    E. Questions and answers
V. Take computer and tape home for further practice

SESSION #2

I. Questions and concerns
II. Discuss interobserver agreement
III. Explain rely observations
IV. Practice rely observation using videotape
V. Conduct two 5 minute rely observations including principal investigator
VI. Evaluate with GETDAT reliability feature
VII. Plan additional training sessions as needed

APPENDIX M

PARENT LETTER/CONSENT FORM

December 14, 1992

Dear Pre-K Parents:

I am a Pre-Kindergarten teacher with Greensboro Public Schools and am completing a Ph. D. in early childhood special education at the University of North Carolina at Greensboro. I am conducting a study of friendships among preschool children and would like your permission to include your child in my study. Your child's teacher has agreed to help me and we believe that it will help your child to be involved in the study.

The name of the study is "The Generalization and Maintenance of Social Interaction for At-Risk Preschool Children: A Comparison". This project is expected to help your child to learn skills that will help him/her get along with his/her classmates. All activities involved in this project will take place during the regular school day and within the regular classroom routine. Friendship activities will be conducted by the teacher with the entire class. Your child was nominated by his/her teacher and has been selected to be videotaped for 5 minutes during free play on certain days during the friendship training, and on two other occasions later in the year. Nothing further will be required of you or your child. There are no risks anticipated as a result of this project, but we believe that there are benefits. As a result of this project, it is expected that your child will learn skills to help him/her become better friends with other children, in the classroom and in other settings.

Please return the attached permission form to your child's teacher by **Wednesday, December 16. You may call me** (288-4692) if you have any questions, and I will be happy to explain the project further if needed.

Thank you for your assistance in my dissertation research project.

Sincerely,

Beth Garriss
Pre-K Teacher
General Greene School

PARENTAL PERMISSION FOR CHILD PARTICIPATION IN RESEARCH PROJECT:
"The Generalization and Maintenance of Social Skills for At-Risk Preschool Children: A Comparison," conducted by Beth Garriss, Doctoral Candidate, UNCG

CONSENT: I have been satisfactorily informed about the procedures of this project and the possible risks and benefits of the project, and I agree for my child to participate. Any questions that I have about the procedures have been answered. I understand that this project and this consent form have been approved by the Institutional Review Board of the University of North Carolina at Greensboro, and by the administration of Greensboro Public Schools. I further understand that my child's school is neither conducting nor sponsoring this project. If I have any questions about this, I will call the UNCG Office of Research Services at (919) 334-5878.

I understand that I am free to withdraw consent for my child to participate in the project at any time without penalty or prejudice. In addition, I understand that any information collected will be kept strictly confidential and that my child will not be identified by name as a participant in this project.

Any new information that might develop during the project will be provided to me if that information might affect my willingness for my child to participate in the project.

Child's Name	Child's Birth Date
Parent's Name	Today's Date
Parent's Signature	Witness to Signature

APPENDIX N

PRINCIPAL LETTER

November 12, 1993

Dear (name of principal),

I am writing to ask for your approval of my plan to conduct a research project which hopefully can include at-risk preschool children at (name) School. I have spoken with (name of teacher), Pre-Kindergarten teacher, and she is willing, pending your approval, to assist me in the data collection phase of my dissertation research. The study is entitled "The Generalization and Maintenance of Social Skills for At-Risk Preschool Children: A Comparison." Participating teachers will be given a packet of materials called Friendship Activities, which are conducted during Circle Time and are adaptations of 8 popular and routine songs, games, etc., typically used with 4 year-olds. They have been modified slightly to include prompts for social interaction.

With the exception of teacher training sessions, all research activities will be conducted as part of the normal daily routine, and should not disrupt the daily schedule in any significant way. I am enclosing a copy of the projected timeline for your information in assessing what will actually be required of participating teachers. A Chapter I Pre-K teacher myself, I can fully appreciate the daily requirements of a teacher of 4 year-olds. I believe the proposed study to be one which involves minimal demands on participating teachers and their routine. I appreciate (name of teacher)'s willingness to help, and likewise will be grateful for your support of her interest in my study.

I have also enclosed an abbreviated copy of the dissertation proposal. If you have questions that are not answered in this document, I will be happy to supply you with a complete version of the proposal as approved by my doctoral committee and filed in the Graduate School Office at UNCG. In addition, you are welcome to call me at home (288-4692) if you have further questions or concerns.

Sincerely,

Beth Garriss
Pre-Kindergarten Teacher
General Green