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# A Comparison of Social Skills in Graded and Nongraded Elementary Schools

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A Comparison of Social Skills in  
Graded and Nongraded Elementary Schools  
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And the  
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Of the Requirements for the Degree  
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by

Angela D. Caster

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EDS FIELD PROJECT ACCEPTANCE

Acceptance for the faculty of the Graduate College,  
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Requirements for the degree EdS,  
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Date *1/28/00*

A COMPARISON OF SOCIAL SKILLS IN  
GRADED AND NONGRADED ELEMENTARY SCHOOLS

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University of Nebraska, 2000

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Previous studies comparing the effects of graded and nongraded schools have focused on student's achievement, attitude, and mental health variables. However, social skills have not been directly compared in these instructional settings examined. The current study compared graded and nongraded school structures in relation to students' social skills. Students in four elementary schools were evaluated by the Social Skills Rating System (SSRS), as rated by themselves. It was predicted that students in nongraded schools would demonstrate better social skills. In addition, the Cooperation subscale of the SSRS was expected to be more predictive of the nongraded schools.

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## A Comparison of Social Skills in Graded and Nongraded Schools

### Statement of the Problem

Throughout history, numerous theories and innovations for the most conducive learning environment for children have been implemented in schools across the country. Controversy still exists, however, as to the characteristics that a school should possess in order to provide the best learning environment for students. The nongraded model is one example of educational reform that has come to the forefront in recent years. In this model, classrooms consist of children representing several ages and grade levels.

During the 1960s and 1970s, nongraded schools grew in popularity (Pavan, 1992; Anderson & Pavan, 1993). Numerous researchers (e.g., Arlin, 1976; Klaff & Docherty, 1975; Bell, Switzer, & Zipursky, 1976) studied nongraded schools to determine their effectiveness for improving student outcomes. Reviews of articles published during this time period reveal discrepant results on measures of academic and mental health outcomes. By the early 1980s, nongraded schools diminished due to a lack of administrative and teacher support, and a lack of knowledge about the nongraded model. The 1990s, however, have again brought nongraded schools to the attention of educational reformers and researchers (Mason & Stimson, 1996). Most elementary schools in Kentucky and Oregon and many in Tennessee, Pennsylvania, New York, Mississippi, California, Florida, Alaska, Georgia, and Texas have implemented the nongraded model (Anderson & Pavan, 1993; Black, 1993; Lodish, 1992). In Kentucky, Mississippi, and Oregon, state legislatures have mandated the use of the nongraded model in elementary classes (Lodish, 1992). Mason and Stimson (1996) reported that, in the



twelve states sampled, nongraded classrooms represented between .3% and 100% of the classes. Anderson and Pavan (1993) estimated that 5-10% of classrooms across the country have implemented the nongraded form of grouping students. Nongraded classrooms are more common in rural schools than in suburban schools and even more prevalent in other countries, such as Canada, Finland, and England (Mason & Stimson, 1996).

Additional research is needed to determine the benefits, if any, of nongraded schools. Numerous professionals, including school psychologists, would benefit from findings of further research because they may learn what strategies are most conducive to the best learning environment. Through understanding students' learning environments, education professionals can more ably deliver their services. If more conclusive research reveals characteristics of the environment in which children learn best, educational reform will be a necessity. For example, classroom structure may need to be reconstructed to be conducive to learning. If nongraded schools are found to be beneficial for students, the strategies that are characteristic of the nongraded environment, such as mentoring and cooperative learning, should be employed more extensively in all schools. If graded schools are found to be more beneficial for students, then graded characteristics should prevail. In either case, the ultimate goal is to determine the best learning environment for children.

To gain a better understanding of the environment in which children learn best, an evaluation of the nongraded model is essential. Previous research comparing traditional and nongraded schools has focused primarily on measures of achievement, self-

concept/mental health, and attitudes toward school. Social skills have been discussed only sparingly. The focus of this study was to compare social skills between the two types of schools. However, because social skills has been a neglected topic in previous research on nongraded schools, the following discussion will begin with topics that have been addressed in nongraded literature (i.e. achievement, mental health, and attitudes). Once this is accomplished, the relationship between social skills and academic performance is reviewed. In addition, different methods with which to assess social skills is presented.

### Defining Nongraded Schools

Continuous progress, multiunit, combination, open concept, multiage, ungraded, multilevel and mixed age grouping are all terms that have been applied to the nongraded model; however, they do not refer to the same type of program (Pavan, 1992; Black, 1993). The lack of one term for referring to nongradedness is likely one cause for the inconsistent findings of researchers. The definitions of nongradedness have been incongruous and difficult to operationalize in previous research (Weinstein, Marshall, Brattesani, & Middlestadt, 1982). For clarification purposes, the terms nongraded and graded are used to refer to the two models in this discussion.

Although it may seem that the nongraded model is fairly new to educational reform, it actually began in the one-room schoolhouse (Anderson & Pavan, 1993). The defining characteristic of the nongraded structure is the lack of grade-level assignments for students or classes; hence the name nongradedness (Pavan, 1992). Instead of grouping students by age, they are grouped according to their abilities (Gutierrez & Slavin, 1992). For instance, the traditional second grade classroom consists of twenty-five seven and

eight year olds. A similar classroom at a nongraded school would consist of students between the ages of six and nine (encompassing grades one, two, and three of a traditional school).

In addition, nongraded schools employ the curriculum structure known as continuous progress (Gutierrez & Slavin, 1992; Pavan, 1992; Mason & Stimson, 1996), in which subjects, such as reading and mathematics, are organized into a hierarchical series of levels covering all grades involved in the nongraded plan. For example, within the same classroom, there may be students reading at four different levels. With the continuous-progress model, students begin each year where they left off the previous year in the skill hierarchy (Gutierrez & Slavin, 1992). Children are able to progress at their own rate and skill level. In this type of curriculum structure, students may be grouped across grade lines for all subjects or for simply one subject, usually reading. Variability does exist, however, as to the extent to which nongradedness and continuous-progress methods are applied

Within the nongraded model, a team of several teachers works with a team of students who are regrouped frequently according to the particular task(s) that need to be completed (Pavan, 1992; Mason & Stimson, 1996). Cooperative learning and mentoring are two strategies that are characteristic of the nongraded model and encouraged within the classroom. Cooperative learning encompasses a broad range of teaching strategies that provide opportunities for students to work together in small groups (Slavin, 1981). Compared to individualistic or competitive learning situations, cooperation promotes active involvement and reciprocal interaction among students (Nastasi & Clements,

1991). Cooperative groups may work together to accomplish a common objective or they may work to help one another master academic tasks. Slavin indicated that individuals who interact in cooperative ways tend to produce positive relationships. He maintained that students have a greater liking for one another as a result of participation in cooperative learning groups. Furthermore, students in classrooms employing cooperative strategies promote and support both academic (i.e. reach goals, complete tasks) and social learning (Jordan & Le Metais, 1997). Within these groups, students use their social skills to interact with others cooperatively (Lyman, Foyle, & Azwell, 1993). Research has suggested that cooperative learning fosters the development of social skills in children of all ages (Jordan & Le Metais, 1997). In teaching children how to work together, their relationships develop beyond just the surface level, and positive peer relations and effective social skills result. In studying the impact of cooperative learning on students' social development, Jordan and Le Metais (1997) found that students became more socially aware and more skilled as a result of increased collaboration with fellow students.

Mentoring is a similar concept, where a younger child can seek the advice of their mentor, usually an older child. Positive relationships between children of varying ages are encouraged in the nongraded model. Additional characteristics of the model include students learning at their own pace, having more individualized instruction, and not receiving 'grades' for their work. Progress is determined in terms of the tasks completed and the manner of learning (Pavan, 1992).

## Implementing Nongraded Schools

The nongraded model has been supported in the literature. For example, some researchers have found that the nongraded model promotes social and cognitive benefits for younger and older children (Chapman, 1995; Mason & Stimson, 1996). When grouping students across age groups, opportunities arise for younger children to learn social and cognitive skills from the older children (Mason & Stimson, 1996). In addition, older children have increased opportunities to practice the skills they have learned. Opportunities for practice arise when children work together on assignments, resulting in cooperative learning. Lodish (1992) noted that the large age span of children within the classroom is more reflective of the children's environments outside of the classroom, thus giving the children more practice interacting with people of different ages. Children can learn how to associate differently with adults and older children.

In addition to the social benefits children receive in the nongraded environment, the employment of developmentally appropriate practices are also very beneficial (Chapman, 1995; Black, 1993; Gutierrez & Slavin, 1992; Denver, Zila, & Manzano, 1994; Byrnes, Shuster, & Jones, 1994). The National Association for the Education of Young Children (NAEYC) recommended nongraded classrooms as a way to move toward child-centered, developmentally appropriate practices (Byrnes, Shuster, & Jones, 1994; Gutierrez & Slavin, 1992). Developmental theories, such as Vygotsky's zone of proximal development (Vygotsky, 1978), are the basis from which developmentally appropriate practices stem. From Vygotsky's perspective, children learn literacy through their social interactions with others. Both adults and other children can provide support

for literacy acquisition. For example, in the nongraded classroom, older, more able students can act as mentors for younger, less able students (Chapman, 1995). Both younger and older students benefit from the structure. Younger students learn from peers who are similar in age, yet older and more experienced. Through the interaction with younger students, older students are able to practice the skills they have learned.

Furthermore, developmentally-appropriate teaching allows children to develop skills at their own pace. The structure of the nongraded school provides an effective strategy for dealing with children's different rates of development, or their "readiness to learn" (Lodish, 1992). According to each child's prerequisite skills or stage of readiness, teachers are able to individualize a learning program (Goodlad & Anderson, 1987). Teachers recognize what tasks are appropriate for each student's age and skill level and provide learning experiences that meet the individual needs of the child. These strategies allow each child to reach his/her maximum growth potential (Anderson & Pavan, 1993). Conversely, teachers in graded classrooms who tailor curriculum only to what the "average" student learns, neglect the unique learning needs of many children.

The practices and outcomes of retention, promotion, ability grouping, and tracking applied in graded schools have provided additional support for the nongraded model (Anderson & Pavan, 1993; Matthews, Monsaas, & Penick, 1997; Gutierrez & Slavin, 1992; Tanner & Decotis, 1995; Hicks, Edwards, & Sgan, 1973). Nongraded programs provide an alternative to retention and social promotion (Gutierrez & Slavin, 1992). Neither tracking students nor retaining them have resulted in positive outcomes. Researchers studying retention have found that it results in economic, social, and racial

segregation (Tanner & Decotis, 1995; Matthews, Monsaas, & Penick, 1997). Retention is harmful to students, is applied inconsistently, and does not take into account the different rates at which students learn. Anderson and Pavan (1993) cite numerous articles comparing promoted and retained students. The overall conclusion was that grade retention is not better than grade promotion for students with learning difficulties.

In a graded school, a child who is retained has failed to learn one year of material and is then forced to repeat the same material the following year. Advocates of the nongraded model would argue that it is much better for this type of student to progress more slowly through the material and experience success than to continually experience failure. Black (1993) and Tanner and Decotis (1995) noted that children who are given the chance to progress through material at their own rates have more self-confidence, which in turn positively influences their achievement. The continuous progress practices of the nongraded model provide a much less stigmatizing environment for the low achieving student (Gutierrez & Slavin, 1992). In fact, Gutierrez and Slavin found that students in the nongraded programs progressed slightly faster through elementary school than students in graded programs because they were not retained and they had greater self-confidence.

### Impact of Nongraded Schools

The majority of research on nongraded schools has focused on academic achievement and mental health variables. Social skills have not been addressed in previous research comparing graded and nongraded schools. Thus, the variables that have been analyzed previously will be discussed in the following sections. The specific areas

that will be considered in the following sections are achievement, attitude toward learning, and mental health variables (such as self-concept). A student's achievement, attitude toward learning, and mental health are related to their social skills. For this reason, previous research in each of these areas may predict the impact of graded versus nongraded schools on students' social skills.

### Academic Achievement

In terms of academic achievement, studies have indicated that students in nongraded classrooms do better or as well as students in graded classrooms. The degree to which the nongraded model was implemented quite possibly influenced student performance. Anderson and Pavan (1993) reviewed studies published between 1968 and 1990 and found that 58% favored nongraded programs in terms of achievement, and 33% found no significant differences between graded and nongraded programs. Nine percent of the studies found that graded programs showed more positive academic achievement.

During the 1970s, research investigating the effectiveness of nongraded classrooms and schools resulted in inconsistent findings. Wright (1975) compared achievement means by school and found that graded students had higher achievement scores than did the nongraded students. Other researchers found similar results. Students in graded classrooms performed consistently higher than those in nongraded classrooms on measures of reading and math achievement (Bell, Zipursky, & Switzer, 1976; Forman & McKinney; 1978). Bell, Switzer and Zipursky (1974) found that first year students at a graded school were more proficient readers than their matched-aged counterparts at the nongraded school. Pavan (1992) noted research which suggested boys in nongraded



classrooms have better achievement scores. Other researchers have found no significant difference in achievement between students in the graded versus nongraded classrooms (Matthews, Monsaas, & Penick, 1997).

During the 1980s, the nongraded model came to the forefront once again. With this resurgence came an increased effort to determine the effectiveness of the nongraded model. Matthews, Monsaas, and Penick (1997) investigated the impact of the nongraded model on reading and language development of kindergarten through second grade students. Using standardized instruments to compare graded and nongraded students, no significant differences were found on any measure. Other studies, however, have found support for implementing nongraded classrooms. For example, Tanner and Decotis (1995) utilized report card measures to compare students and found that students in the nongraded classrooms scored significantly higher on their report cards. Tanner and Decotis also compared scores from a standardized measure of academic achievement and found no significant differences among the students.

The effectiveness of nongraded classrooms on students' achievement has been studied through various meta-analysis. Giaconia and Hedges (1982) found that graded programs were only slightly more effective than nongraded programs for academic achievement measures. Slavin (1987) indicated that nongraded classrooms achieved more (reading achievement) than graded classrooms. The median effect size found among the studies analyzed was +.45, an effect size of .00 was obtained for graded classrooms (Slavin, 1987). Gutierrez and Slavin (1992), in another meta-analysis, reported that nongraded programs were consistently favored. None of the studies analyzed found

significant results in favor of graded programs. The median effect size for the studies was +.34. Gutierrez and Slavin concluded that nongraded programs may demonstrate greater impact on student outcomes if teachers provide more direct instruction. In contrast, Veenman (1995) found that nongraded and graded classes produced no consistent differences on achievement effects. It is important to note that many difficulties arise with this type of statistical technique because of the variability in definitions of nongradedness and the measures used to determine effectiveness.

### Attitude and Mental Health

Nongraded schools have been found to have a greater effect on nonachievement outcomes than achievement outcomes (Giaconia & Hedges, 1982). Some have concluded that a student will have a more positive attitude toward those programs that allow for active child involvement and individualized instruction. However, in order to improve achievement outcomes direct instruction has been emphasized (Gutierrez & Slavin, 1992). Thus, individualized instruction seems to have a greater impact on nonachievement outcomes of nongraded programs.

Various researchers have investigated mental health outcomes in nongraded schools. Anderson and Pavan (1993) analyzed the effects of nongraded schools and found 52% of studies in favor of nongraded schools in terms of mental health, 43% found no difference between graded and nongraded schools, and 5% found that nongraded schools were worse. In their analysis, Giaconia and Hedges (1982) found that measures of attitude were positive and showed the greatest outcomes in the nongraded programs. Several other researchers have found positive attitudes toward nongraded programs. Ford (1977)

reviewed the research that was available at the time and found that students in nongraded classrooms have more positive attitudes toward school than students in graded classrooms. Hatley, Holloway, and Hiebert (1977) found similar results in seventh through ninth grade students. These researchers also noted that the amount of time students spend in a nongraded program may have a significant impact on determining its effectiveness. In a more recent review of the literature, Veenman (1995) found a small positive effect for students in nongraded classes on attitudes toward school.

Other studies have found no difference in attitude toward school between the two types of schools (Klaff & Docherty, 1975; Tanner & Decotis, 1995). Klaff and Docherty (1975), Arlin (1976), and Tanner and Decotis (1995) all found significantly higher attitudes towards school for females than for males. In addition, Arlin (1976) found that during the early elementary grades, students were more favorable toward the graded classes. In the upper elementary grades, the attitudes of students in the nongraded program were as favorable as the attitudes of students in the graded program. In another interesting study, Hicks, Edwards, and Sgan (1973) found that less intelligent students had more positive attitudes toward nongraded schools than graded schools and more intelligent students had less favorable attitudes toward nongraded than graded schools.

Mental health variables, specifically self-concept and anxiety, have also been considered in studies of the effectiveness of nongraded programs. Again, considerable variability has been revealed by the studies that have been conducted. For instance, Wright (1975) found that students in a nongraded program reported higher levels of anxiety while Pavan (1992) cited research that younger, nongraded children

demonstrated less anxiety than did those in the graded schools. Ford's (1977) review concluded that there are mixed results on the anxiety of children in the two types of classrooms. The numerous studies comparing graded and nongraded schools, which have included a measure of self-concept, have found similar results. Specifically, students in nongraded classrooms have consistently shown higher levels of self-concept (Ford, 1977; Franks, Marolla, & Dillon, 1974; Giaconia & Hedges, 1982; Veenman, 1995). Only one study found no differences in self-concept between students at graded and nongraded schools (Klaff & Docherty, 1975).

Research on the outcomes of nongraded schools has formed an inconsistent picture. Information and conclusions drawn from numerous studies have provided discrepant and inconclusive evidence as to the effectiveness of the nongraded classroom. Throughout these analyses, the effects of age and grade on the type of school attended have only been discussed minimally by researchers. Thus, age and grade effects should be studied in future research. Furthermore, a comparison of social skills between graded and nongraded schools should be examined.

#### Social Skills and Achievement

A significant relationship between social skills and academic performance has been discovered by various researchers (e.g. Parker & Asher, 1987; Agostin & Bain, 1997; Cartelidge & Milburn, 1978; Gresham & Elliott, 1990, Bursuch & Asher, 1986; Patrick, 1997). Specifically, social skills have been found to be positively correlated with academic performance, indicating that better social skills are related to greater academic performance. Ladd (1990) found that children who made more new friends throughout

the year tended to also make greater gains in standardized academic test scores than those children who made fewer friends. Patrick (1997) noted that researchers must attend to social factors to fully understand students' classroom learning and achievement

When considering the nature and structure of the nongraded classroom, social skills in the nongraded environment become especially important (i.e., use of cooperative learning strategies, mentoring, and students of varying ages in the classroom). The nongraded classroom provides increased opportunities for social reinforcement, which is important to the development of social skills. Those behaviors that result in the giving and receiving of positive social reinforcement are intercorrelated and are predictive of social acceptance (Gresham & Nagle, 1980). Social acceptance is indicative of having more friends, which as previously noted, is related to increased academic performance.

Gresham and Elliott (1989) reported that cooperative learning has been shown to lead to increases in academic performance, as well as increases in prosocial behavior. Gresham and Elliott's findings are important because cooperative learning, indicative of nongradedness, provides for situations where more positive social interactions will occur and be reinforced. Social skills deficits have also been related to delayed cognitive development and impaired academic performance. Cartelge and Milburn (1978) noted that the development of social skills may be crucial to the academic experience and overall school success of an individual student. In addition, Elliott, Sheridan, and Gresham (1989) cited previous research indicating that social skills deficits in early childhood, if untreated, remain stable over time, are related to poor academic performance, and may be predictive of social adjustment problems in adolescence and

adulthood. Landsheer, Maassen, Bisschop, and Adema (1998) found correlations between sociometric peer judgments and grade point average of primary school children. Cobb (1972) found that children who talk about academic material to their peers as well as attend to their work, are more likely to succeed than children who do not interact with peers. In addition, the successful child is the one who receives more practice in academic skill areas through social interactions with peers. Cartelge and Milburn (1978) noted that relationships have been found between standardized measures of achievement and items on behavior rating scales or checklists for social skills. Behaviors such as independence, attention, persistence to task, self-control, and following directions were positively correlated with achievement measures. Using the SSRS, Agostin and Bain (1997) found significant relationships between social skill subscales and achievement scores. Their findings suggest that behaviors such as positive social skills, as well as emotional factors, are important in the prediction of successful academic achievement. Agostin and Bain concluded that factors such as cooperation and self-control (subscales of the SSRS) are important to academic achievement.

Students in a nongraded school may have better social skills than students in a graded school because there is increased opportunity to interact with other children. The inconsistent results found in studies comparing the academic performance of the two schools may be resolved with the measurement of social skills. If it is found that students at the nongraded school do indeed have better social skills, it may be necessary to implement more of the characteristics of the nongraded model into a graded setting (e.g. cooperative learning, classrooms of different aged students, etc.). Conversely, if no

difference exists or if graded schools are found to have better social skills, the strategies used in nongraded schools should not be advocated.

### Assessing Social Skills

Although the current study employed only one method of assessing social skills, there are several other methods available. An understanding of all available methods is necessary for a thorough evaluation of the issues. The following methods will be discussed in the next section: parent/teacher rating scales, direct observations, and sociometric ratings.

#### Rating Scales

Rating scales are helpful in obtaining data about a child's social skills from a variety of sources. Rating scales provide for an estimate of the frequency of behaviors, and an estimate of skill and/or performance deficits. There are, however, only a few social skills rating scales that exhibit sufficient reliability and validity, for example the SSRS (Gresham & Elliott, 1990). Usually rating scales can be obtained from three sources: adults, peers, and the students (i.e. self-report). These sources are significant people in students' lives. Thus, they are in a position to indicate which social skills are deficient in particular situations (Michelson, Sugai, Wood, & Kazdin, 1983). Self-report measures can provide information regarding the knowledge a student has about social skills, social perception, and self-perception of his/her own skills (Michelson et. al., 1983). These measures require children to evaluate their own social behavior. Self-ratings help to provide valuable information about children's perceptions of social competence that is not otherwise accessible (Foster, Inderbitzen, & Nangle, 1993; Jones, Sheridan, &

Binns, 1993). Other self-report measures have been used in predicting and understanding academic criteria. Such measures include self-reported grades, self-predicted academic performance and self-concepts of academic ability (Baird, 1976).

Social Skills Rating System (SSRS). The SSRS provides a broad assessment of social behavior through multiple raters. The scales are standardized and norm referenced and can be used with preschool, elementary, and secondary students (Gresham & Elliott, 1990). Behaviors are rated in terms of their frequency and importance. The SSRS includes three versions of the behavior rating forms: parent, teacher, and student. Student self-rating forms are only available for grades 3 through 6 and grades 7 through 12. Social skills, problem behaviors, and academic competence are the three domains sampled in the SSRS. The social skills domain is divided into 5 subscales: Cooperation, Assertion, Responsibility, Empathy, and Self-Control. Specifically, the Teacher form consists of Cooperation, Assertion, and Self-Control. The Cooperation, Assertion, Empathy, and Self-Control subscales comprise the Student form (see Gresham & Elliott, 1990).

Gender differences have been shown to exist on the SSRS. Significant differences in the ratings of male and female students were found for the total Social Skills Scale of the SSRS (Gresham & Elliott, 1990). Teachers, parents, and students consistently gave higher ratings to female students at almost every grade level (K-10). In addition, sex differences were also found for the Problem Behaviors Scale. When rated by teachers, male students were found to exhibit problem behaviors more frequently than their female peers. These differences were also apparent in looking at each of the subscales, with the exception of the Assertion subscale. Moreover, Gresham and Elliott (1990) noted that the



literature on social skills offers no evidence to assume a relationship between age and social skills. In the standardization sample of the SSRS, Gresham and Elliott found no trend in the mean Social Skills Scales scores on parent or teacher forms for children in grades K-6. As noted by Gresham and Elliott, the SSRS methodology is not notably sensitive to developmental differences.

### Direct Observations

The observation of a child's behavior in a natural setting is the method that conceivably possesses assured face validity (Gresham, 1981). Advantages of observations are that they provide a direct measure of social interactions in applied settings, allow for a functional analysis of behaviors, and provide an opportunity to observe the reactions of peers (Jones, Sheridan, & Binns, 1993). When conducting an observation, raters try to be unobtrusive to the interaction, while accurately recording the frequency of target behaviors (Michelson, Sugai, Wood, & Kazdin, 1983). While observing a particular child's interactions with others, it is also possible to compare the target student's social interactions with peers (Jones, Sheridan, & Binns, 1993). Observations also provide a check of whether an intervention is working (Gresham & Elliott, 1990).

### Sociometrics

Sociometric methods (i.e., peer ratings or nominations) provide important information relevant to a student's place within his/her peer group. These methods help to explain a student's social impact and how much he or she is liked by peers. Sociometric measures are based on the assumption that a peer group is a reliable source of information in determining social acceptability (Jones et. al., 1993). One of the advantages to using

sociometric measures is good predictive validity and concurrent validity (Gresham, 1981).

Two types of sociometric measures are typically used to assess the status of an individual within a particular environment. One is a rating-scale procedure. In this procedure, children are typically asked to rate each of their classmates on a 1-5 scale regarding how much they would like to play with each child. The second method is the traditional limited-choice nomination measure in which children indicate their best friends or most preferred classmates. Both of these procedures have been used to a great extent in research on social skills. The primary use of sociometric measures is to identify those children who are unpopular among their peers or low-achieving. Determining a child's sociometric status is important because past research has shown a relationship between peer status in childhood and later dysfunction in adolescence and adulthood (Asher, 1985).

Despite their potential utility, this method does have limitations. Because different psychometric devices are scored in various ways by different investigators, the psychometric characteristics of the devices must be examined separately (Foster, Inderbitzen, & Nangle, 1993). In addition, there may be ethical issues to take into consideration. For instance, some researchers have voiced concern that rejection will become more salient when children are asked to evaluate their peers.

In conclusion, each method (rating scales, direct observations, and sociometrics) has advantages and disadvantages. When assessing social skills, Elliott et. al. (1989) recommends that multiple sources of information are imperative to the assessment

process. No single method or measure is sufficient when assessing social skills. Multiple methods and sources should be employed to obtain a comprehensive picture of a child's social capabilities (Jones, Sheridan, & Binns, 1993). Direct observations were not used in the current study because of the difficulty in constructing clear operational definitions of behavior. In addition, sociometrics were not used because the purpose is not to identify preferred peers, but to obtain a quantitative measure of social skills. For the current study, student rating scales were used.

### General Summary and Conclusions

Past research on nongraded schools is inconclusive. Numerous researchers have cited various problems in their research of nongraded schools. First, researchers have emphasized the need for an operational definition of nongradedness (Gutierrez & Slavin (1992); Weinstein, Marshall, Brattesani, & Middlestadt, 1982). One nongraded program may implement only a few elements of the model, while another may implement every element. Another problem with the research on nongradedness is that no specific theory exists to guide research and the implementation of programs (Franks, Marolla, & Dillon, 1974). Past research has provided few quality studies (Wong, Erickson, King, Stroller, & Allen, 1977). Furthermore, previous research may not apply to the current models of nongraded schools (Gutierrez & Slavin, 1992) or to the changes in the technological nature of schools today, which seemingly affect how students learn. The current model of nongraded programs emphasizes a theme approach to student instruction, with less emphasis being placed on structured academics. Finally, research investigating social skills between nongraded and graded schools does not exist. Gender differences have also

been neglected in previous research of nongraded schools. The current study may provide more information into the effectiveness of nongraded schools.

### The Current Study

The purpose of the current study was to investigate the impact of nongraded schools on students' social skills. Therefore, children from nongraded schools were compared with students from graded schools in the area of social skills. Student self-reports were utilized to check for differences between raters. The following research questions were addressed in the current study:

1. a) What is the effect of gender on social skills?

Hypothesis: This study will support and confirm previous research that has found females to have higher social skills than males. Teachers, parents, and students have consistently given higher ratings in social competence to female students at various grade levels. This finding will occur with student ratings of social skills.

1. b) What is the effect of type of school (i.e. graded vs. nongraded) on social skills?

Hypothesis: A significant difference will be found between the social skills of children at the nongraded schools and of those children at the graded schools. Children at the nongraded schools would demonstrate better social skills because they learn in environments where cooperative learning and mentoring occurs. In addition, nongraded classrooms consist of children from larger age ranges than the graded classroom. In turn, this creates a wider variety of opportunities for children to learn social behaviors. This finding will occur with student ratings of social skills.

## 2. What behaviors will best predict the students in the nongraded vs. graded schools?

Hypothesis: Cooperation will be the best predictor of the nongraded school.

Assertiveness, self-control, and empathy will not be predictive of the nongraded schools.

Again, this finding is hypothesized because of the strategies used in the nongraded environment, specifically cooperative learning strategies.

### Method

#### Procedures

Letters requesting permission to conduct a research study were sent home with fourth, fifth and sixth grade students from four elementary schools, two graded and two nongraded. In addition, the principals were given a description of the research study. Each letter contained a description of the study and consent forms on which parents indicated whether or not their child would participate. Parents of participants gave their written consent. In addition, each participant gave his/her written assent to participate in the study.

The number of returned consent forms was less than what was projected by the researcher. For this reason, every student who returned a consent form was included in the study. Thus, randomization procedures were not utilized. Groups were divided on the basis of gender (male and female), and type of school (graded and nongraded). After consent forms were returned, data collection began. Participants were excused from their classrooms for approximately twenty minutes. The researcher administered the Social Skills Rating System- Student form (SSRS-S) to small groups. Each group consisted of approximately six to ten students. The researcher read aloud the directions and individual

items of the SSRS. Participants were given the opportunity to ask questions throughout the administration. Once participants completed the SSRS forms, they were rewarded with the choice of a pencil and piece of candy.

### Setting

The study identified two graded schools and two nongraded schools. The nongraded schools were designed on the basis of the nongraded model and employed its theories. In nongraded classrooms, children are grouped with others of different ages. Cooperative learning is emphasized where younger and older children learn from one another. Students are encouraged to interact with their peers in the learning process. A nongraded school, therefore, is more social in nature because of its structure.

Four schools were selected from the same area of the Midwest. Graded schools consisted of classrooms for each designated grade. Classrooms within the nongraded schools had students representing at least two grade levels.

### Participants

A total of 134 students from four elementary schools (2 graded, 2 nongraded) in the Midwest participated in the study. Informational letters were sent to the parents of students, asking for their assistance in the research project. Sixty-seven students represented the nongraded schools, and sixty-seven students represented the graded schools. Students were identified according to their grade level and included those in the fourth, fifth, and sixth grades. The students in these grades were able to more accurately assess their social skills than those in kindergarten, first, second, and third grade. Students with mild, moderate, or severe mental handicaps (i.e., I.Q. below 70) were excluded from

the study. Males and females equally represented the two types of schools. Twenty-six boys represented the graded schools and twenty-six boys represented the nongraded schools. Likewise, forty-one girls represented the graded schools and forty-one girls represented the nongraded schools. Participants were not racially diverse.

### Materials

Social Skills Rating System. The social skills rating system includes behavioral checklists designed to measure the frequency of specific social behaviors (Elliott, Sheridan, & Gresham, 1989). Participating students completed the SSRS-S. Students rated 34 behaviors on a frequency scale of 0 (Never) to 2 (Very Often).

The median coefficient alpha reliabilities for the Social Skills Scale were: .90 for all forms; .84 for the Problem Behaviors Scale; and .95 for the Academic Competence Scale. Internal consistency scores ranged from .73 to .95. These scores indicate the scales' high degree of homogeneity. The Student form had a test-retest reliability score of .68. Validity has also been tested on the SSRS. Criterion-related validity was obtained by correlating the SSRS Student form and the Youth Self-Report Form (YSR). These two forms had a low, but significant correlation of .23.

## Results

### Descriptive Statistics

First, means and standard deviations for social skills in the current sample were calculated and compared to the original standardization sample (Gresham & Elliott, 1990). Specifically, means and standard deviations are presented in Table 1 and Table 2. Students from the current study reported overall higher social skills scores than did the

original standardization sample. Second, the graded and nongraded samples from the current study were compared. Table 3 contains the means and standard deviations of the nongraded and the graded samples. The nongraded sample had an overall higher social skills score than did the graded sample. In addition, females generally had higher scores than males regardless of type of school. Finally, the correlations between the subscales and total raw scores were compared. Table 4 presents the intercorrelations for the standardization sample. Table 5 contains the intercorrelations for the current sample.

#### Hypotheses 1a and 1b

1 a). This study will support and confirm previous research that has found females to have higher social skills than males. 1 b). In addition, a significant difference will be found between the social skills of children at the nongraded schools and those at the graded schools.

To compare the effect of gender and type of school on social skills, a 2 x 2 between subjects analysis of variance was conducted. The independent variables were school and gender. The dependent variable was social skills. As predicted, significant main effects were found for both gender  $F(1, 134) = 16.43, p < .05$  and type of school  $F(1, 134) = 9.64, p < .05$ . Thus, females had significantly higher self-reported social skills scores than males. Furthermore, students from the nongraded schools had significantly higher self-reported social skills scores than students from the graded schools (See Figure 1). Also, as predicted, no significant interaction between type of school and gender was obtained  $F(1, 134) = .08, p > .05$ .



## Hypothesis 2

Cooperation will be the best predictor of the nongraded school. Assertiveness, self-control, and empathy will not be predictive of the nongraded schools.

This research question was addressed through stepwise regression analyses. The purpose of the stepwise analysis was to determine which of the predictor variables best predicts the criterion variable. The criterion variable was the type of school (i.e., graded vs. nongraded) and the predictors were the raw scores of the SSRS subscales (Assertion, Cooperation, Empathy, and Self-Control). Thus, type of school was regressed on the assertion, cooperation, empathy, and self-control raw scores. The results revealed that self-control best predicted the type of school. Self-control accounted for 6% of the variance found in the type of school,  $R^2 = .06$ ,  $F(1, 132) = 9.96$ ,  $p < .01$ . The  $\beta$  was  $.27$ ,  $t = 3.16$ ,  $p < .01$ . If the  $F$  value for a particular variable was greater than or equal to  $.100$ , it was removed from the equation. The remaining predictor variables, assertion, cooperation, and empathy, were not entered into the equation for this reason. The  $\beta$  for the cooperation raw score was  $.04$ ,  $t = .35$ ,  $p > .05$ , the  $\beta$  for the assertive raw score was  $-.04$ ,  $t = -.32$ ,  $p > .05$ , and the  $\beta$  for the empathy raw score was  $-.01$ ,  $t = -.07$ ,  $p > .05$ . These insignificant beta weights indicate that the addition of the cooperation, assertive, and the empathy scores did not add anything new to the prediction of the type of school. Thus, self-control was the best predictor of the type of school and hypothesis 2 was not supported.

## Discussion

This study focused on students' social skills in nongraded schools compared to more traditional, graded schools. By studying social skills in graded and nongraded schools, the benefits obtained from implementation of a nongraded model may be better understood. Furthermore, educators may gain additional insight on the type of environment most conducive to children's learning.

Two main hypotheses were tested in this study. The first hypothesis had two goals. The first goal was to confirm previous research. It was hypothesized that females would have higher social skills than males, and the analysis confirmed this hypothesis. Females, regardless of type of school, had significantly higher self-reported social skills scores than males. These results supported previous research by Gresham and Elliott (1990), who found substantial differences in ratings of male and female students on the SSRS. Furthermore, females were found to receive consistently higher ratings at all grade levels and by different raters.

The second goal of the first hypothesis was to examine students' social skills at the graded and nongraded schools. It was predicted that students at the nongraded schools would be significantly different from students at the graded schools. Results from the analysis supported this hypothesis, indicating that students at the nongraded schools had significantly higher social skills than students at the graded schools. Achievement, attitude and mental health outcomes have been studied in the nongraded model but social skills outcomes have been neglected. Researchers have, however, noted the importance of social skill development. Cartelge and Milburn (1978) acknowledged that the

development of social skills may be crucial to the academic experience and overall academic success of students. Numerous researchers have found that better social skills are related to greater academic performance (e.g., Parker & Asher, 1987; Agostin & Bain, 1997; Carteldge & Milburn, 1978; Gresham & Elliott, 1990; Bursuck & Asher, 1986; Patrick, 1997). Moreover, some researchers have found that the nongraded model promotes both social and cognitive benefits for younger and older children (Chapman, 1995; Mason & Stimson, 1996). The characteristics of the nongraded model (e.g. cooperative learning, mentoring) provide increased opportunities for social interactions between students. This may be one reason for the findings of the current study.

The second hypothesis stated that Cooperation would be the best predictor of the nongraded schools. This hypothesis was not supported by the analyses. The results revealed that self-control was the best predictor of the type of school. Cooperation was predicted to be the best predictor of nongraded schools because the nongraded model emphasizes cooperative learning strategies. Students are encouraged to work together in small groups. Slavin (1981) noted that individuals who interact in cooperative ways produce positive relationships. Jordan and Le Metais (1997) studied the impact of cooperative learning strategies on students' social development and found that students became more socially aware and more skilled as a result of increased collaboration with fellow students.

After further investigation of specific items, the self-control scale may reflect characteristics of the nongraded model. The self-control scale on the SSRS includes such items as "I politely question rules that may be unfair," "I ask friends for help with my

problems,” and “I talk things over with classmates when there is a problem or an argument.” Because students in a nongraded school are taught to work cooperatively with others, they may feel more comfortable asking others for help than students in a graded school, as these items would seem to indicate. The current study found that students at the nongraded schools had higher social skills, however it is difficult to determine what specific skills are differentiated in the nongraded setting.

Overall, the findings of this studied have confirmed previous research and provided additional evidence in support of the nongraded model, in relation to social skills. Specifically, the students at the nongraded schools reported higher social skills than did students at the graded schools. This finding is supported by the nature and philosophies employed within the nongraded model (e.g., cooperative learning, mentoring, grouping strategies). Students in environments employing cooperative learning strategies promote and support both academic and social learning (Jordan & Le Metais, 1997). Research suggests that cooperative learning is important to the social development of children (Jordan & Le Metais, 1997). Thus, the cooperative learning environment of the nongraded model supports and encourages the social development of students. The importance of children’s social development is emphasized by research supporting the relationship between social skills and academic performance. Researchers have found that higher social skills are related to greater academic performance (Parker & Asher, 1987; Agostin & Bain, 1997; Gresham & Elliott, 1990). Gresham and Elliott (1989) reported a significant relationship between cooperative learning and increased academic performance as well as increased prosocial behavior. Furthermore, social skills

deficits have been related to delayed cognitive development and impaired academic performance (Cartelidge & Milburn, 1978). Although this research is crucial, it is important to remember that the research is correlational and does not indicate causality.

### Implications for Educators

The findings of the present study add to and support research on the nongraded model. Although previous research has been inconclusive, this study offers additional evidence in support of the nongraded model. Because of the supportive evidence offered from the current study, changes in the educational environment of children should be considered. Educators should further evaluate and consider the characteristics of the nongraded model to obtain the greatest student outcomes. Continuous progress, cooperative learning/teaching, mentoring, and individualized instruction all characterize the nongraded setting; however they should be considered important characteristics of all educational settings. The findings of the current study, among others, provide evidence to the type of environments in which students learn best. All professionals working in education should be knowledgeable about the best learning environments to better serve students. School psychologists, in particular, should be knowledgeable about these and other research findings. They can use research evidence to advocate for changes in educational systems. The ultimate goal within any educational setting is to provide students with the best education possible.

### Limitations

Although the current study provides evidence in support of the nongraded model, there are limitations to consider. Throughout the body of research studying the

effectiveness of the nongraded model there has been a lack of one clear definition of nongradedness. Continuous progress, multiunit, combination, open concept, ungraded, multilevel, and mixed age grouping are all terms that have been applied to the nongraded model. The variety of terms has also resulted in a variety of programs. Thus, the inconsistent findings of studies over the years have no doubt been the result of unclear definitions of nongradedness. In addition, each nongraded school may implement varying degrees of nongradedness. Some schools may be more nongraded, per se, than others.

Specific limitations relevant to the current study also need discussion. First, the schools studied were representative of one Midwestern city. In addition, the majority of participants were Caucasian. Thus, the results of the current study may not generalize to cities or school districts across the country. The sample in this study was a convenience sample. Randomization procedures were not used because all participants who returned a consent form were included in the study. The number of students participating in the study was low. Although there was a total of 134 students, there were only sixty-seven students from each school. The number of graded and nongraded schools was small, two of each. Overall, significantly more females participated in the study than males. Although there were equal numbers of males and females between the graded and nongraded schools, this may have had an impact on the findings. Another limitation of the current study is that it is not clear which specific aspect of the nongraded schools resulted in the higher social skills.

### Suggestions for Future Research

In the future, researchers and educational theorists need determine what constitutes a nongraded school. A specific and well defined model should be set in place. Once an operational definition of the model has been obtained, all characteristics should be implemented. Research studying the effectiveness of nongraded schools should then consider which characteristics of the nongraded model are being implemented. In order to determine the true effectiveness of the nongraded model, all characteristics should be implemented. Researchers should study schools, graded and nongraded, in numerous states. A comprehensive study of nongraded schools should also include various measures of achievement, attitude, mental health, and social skills.

### Summary and Conclusions

The current study provides additional support for the nongraded model and provides new information about nongraded schools in the area of social skills. The current study found that nongraded schools had significantly better social skills than the traditional, graded schools. This study was limited, however in the number of students and schools included in the study and to the part of the country where the schools were located. Future research should include a clear operational definition of nongradedness and study several, essential outcome measures.

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Table 1

Raw Score Means and Standard Deviations for Social Skills Subscales and Total Scale:Standardization Group

	<u>Fourth grade</u>		<u>Fifth grade</u>		<u>Sixth grade</u>	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Cooperation- Male	10.7	3.3	10.5	2.9	10.7	3.1
Cooperation- Female	14.8	2.8	14.7	2.8	14.6	2.8
Assertion- Male	15.8	2.6	14.6	2.9	16.3	2.4
Assertion- Female	13.3	2.6	13.5	2.5	13.2	2.5
Self-Control- Male	11.7	3.6	11.5	4.0	12.2	3.3
Self-Control- Female	11.7	2.6	11.3	2.8	10.8	3.0
Empathy- Male	13.1	3.0	13.1	2.9	13.8	2.5
Empathy- Female	16.3	3.0	16.3	2.7	16.5	2.5
Total Scale- Male	51.3	8.9	49.6	8.9	53.1	7.4
Total Scale- Female	56.1	9.1	55.9	8.6	55.1	8.4

Note. Sample group Total Scale scores for fourth, fifth, and sixth grade males were 50.6, 46.1, and 51.3, respectively. Sample group Total Scale scores for fourth, fifth, and sixth grade females were 60.4, 59.9, and 53.5 respectively.

Table 2

Raw Score Means and Standard Deviations for Social Skills Subscales and Total Scale:Sample Group

	<u>Fourth grade</u>		<u>Fifth grade</u>		<u>Sixth grade</u>	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Cooperation- Male	13.6	2.9	11.9	3.4	14.0	3.1
Cooperation- Female	16.2	2.9	15.6	3.0	14.0	3.1
Assertion- Male	12.8	2.1	10.0	2.6	13.5	2.6
Assertion- Female	14.3	2.6	14.7	2.4	13.2	2.6
Self-Control- Male	10.1	3.2	9.0	3.0	11.2	4.0
Self-Control- Female	13.1	3.0	12.6	2.7	10.7	3.5
Empathy- Male	14.2	3.3	15.3	2.7	14.4	3.4
Empathy- Female	16.9	2.7	17.0	3.0	15.7	3.5
Total Scale- Male	50.6	9.8	46.1	10.6	51.3	12.3
Total Scale- Female	60.4	9.0	59.9	9.1	53.5	11.5

Note. Standardization group Total Scale scores for fourth, fifth, and sixth grade males were 51.3, 49.6, and 53.1, respectively. Sample group Total Scale scores for fourth, fifth, and sixth grade females were 56.1, 55.9, and 55.1, respectively.

Table 3  
Means and Standard Deviations of the Nongraded vs. Graded Samples

	<u>Graded</u>		<u>Nongraded</u>	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Cooperation- Male	13.1	3.2	14.1	3.0
Cooperation- Female	14.9	3.2	16.2	2.8
Assertion- Male	12.1	2.8	13.7	2.2
Assertion- Female	14.0	2.8	14.4	2.2
Empathy- Male	14.3	3.2	15.4	3.0
Empathy- Female	16.0	3.3	17.2	2.5
Self-Control- Male	9.9	3.2	11.2	3.7
Self-Control- Female	11.2	3.0	13.2	3.0
Total Scale- Male	48.4	10.5	54.4	10.3
Total Scale- Female	56.0	11.0	61.0	8.1
Total Standard Score- Male	96.3	14.8	105.0	15.0
Total Standard Score- Female	100.6	18.3	108.6	14.5
Total Standard Score	98.9	17.1	107.2	14.7

Note. Standardization group Total Scale scores for fourth, fifth, and sixth grade males were 51.3, 49.6, and 53.1, respectively. Sample group Total Scale scores for fourth, fifth, and sixth grade females were 56.1, 55.9, and 55.1, respectively.



Table 4  
Intercorrelations between Subscale and Total Scale Raw Scores for the Standardization

Sample.

	Total	Cooperation	Assertion	Self-Control	Empathy
Total		.82	.84	.82	.80
Cooperation			.61	.51	.60
Assertion				.65	.53
Self-Control					.49

Empathy

p < .01

Table 5

Intercorrelations between Subscale and Total Scale Raw Scores in Current Sample.

	Total	Cooperation	Assertion	Self-Control	Empathy
Total	1.00	.81**	.81**	.86**	.84**
Cooperation			.63**	.61**	.66**
Assertion				.73**	.60**
Self-Control					.71**
Empathy					

Note. Standardization group Total Scale correlations were .82 with Cooperation, .84 with Assertion, .82 with Self-Control, and .80 with Empathy.

\*\* $p < .01$

Figure Caption

Figure 1. Mean standard score for social skills as a function of gender and type of school.

