The purpose of this study was to examine changes in kindergartners’ perceptions of competence and to determine the effects of teachers’ verbal behaviors on these perceptions. A sample of 168 kindergartners from 31 classrooms participated in a pre- and posttest administration of the Pictorial Scale of Perceived Competence and Social Acceptance and three classroom observations. Kindergartners in this study generally reported high perceptions of competence. The drop in perceptions documented in previous research was not found in this study, suggesting that the developmental change occurs after kindergarten. A modest significant correlation between perceptions of competence and both academic skills and teacher ratings indicated that children were developing more accurate judgements. Teachers’ verbal behaviors were not related to students’ perceptions of competence. In contrast, the amount of praise that students received was related to the instructional style of the teacher and the frequency in which students were criticized was related to their academic skills. Implications for educational practice are discussed.

Kindergarten teachers potentially have significant effects on the development of children’s perceptions of competence at a very critical stage in their lives (Entwisle, Alexander, Pallas, & Cadigan, 1987). The purpose of this study was to examine the relationship between teachers’ verbal behaviors and kindergartners’ perceptions of competence.

In a review of research, Brophy (1981) concluded that some students are better able to get more praise from teachers, usually students with “personal qualities such as confidence, sociability, and extraversion” (p. 12). Pintrich and Blumenfeld (1985) found a positive correlation between perceptions of competence and teacher praise for academic work. However, the correlational nature of their study makes it hard to determine the exact nature of the relationship. Do students with high perceptions of competence elicit more teacher praise or do students who get more praise develop higher perceptions of competence? This study examined the relationship between kindergartner’s perceptions of competence very early in the school year and teachers’ verbal comments.

Underscoring the importance of teacher/student interactions, it is also important to look at the effects of teacher verbal comments (e.g., praise or criticism) and perceptions of competence as children move through their kindergarten year. Page and Rosenthal (1990) have suggested that subtle differences in teaching style may affect students’ perceptions of their academic ability. Therefore, teacher praise may help a child maintain or show smaller drops in their perceived competence while criticism may result in lowered perceptions of competence.

Attribution theory has been used to suggest that praise and criticism are more important for younger children. Barker and Graham (1987) have suggested a developmental sequence in the attributions made concerning praise/criticism. While older students make causal attributions using a compensatory process of combining ability and effort (i.e., a praised child is viewed as being less able and expending more effort; a criticized child is more able but expending less effort), younger children make attributions based on a positive combination of ability and effort (i.e., a praised child is more able and a hard worker; a criticized child is less able and not a hard worker). This suggests that in the kindergarten classroom, perceptions of competence may be enhanced by praise while dampened by criticism.

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While the Barker and Graham study (1987) documented the perceptions of others’ competence, the strong effect of teacher feedback for kindergartners’ self-perceptions has been documented by Stipek and Daniels (1988). They found that kindergartners in classrooms in which frequent normative information was available (including teacher feedback) had lower perceptions of competence than kindergartners in classrooms without such information. Stipek and Daniels concluded that the daily feedback from teachers had a greater effect on self-perceptions than other forms of feedback (e.g., summary reports sent to parents). In a review of research, Wittrock (1986) came to the same conclusion, suggesting that teacher feedback can influence a student’s perceptions of ability in future school performances. This study examined the effects of positive and negative teacher feedback on children’s perceptions of competence during the first semester of kindergarten.

Research has consistently found that young children report high perceptions of their abilities (Stipek & MacIver, 1989) regardless of their actual ability. As children develop the ability to make comparisons with peers and gain teacher feedback, they are able to develop a more accurate sense of competence (Entwisle et al., 1987). Are children as young as kindergarten-age able to report accurate judgements of their competence? Previous research with kindergartners has been inconsistent, with some studies documenting modest correlations between measures of academic achievement and perceptions of competence (Anderson and Adams, 1985; Trent, 1986) and others suggesting no relationship at all (Gullo & Ambrose, 1987). This study attempted to replicate previous research suggesting a modest relationship between self-perceptions and actual academic ability of kindergartners as rated by their teachers.

Although a significant drop in measured perceptions of competence early in the elementary school years has been well-documented; the bulk of this research has focused on elementary students (grades two through six) (e.g., Eshel & Klein, 1981; Stipek & Tannant, 1984). Studies focusing on younger children include a cross-sectional study documenting a drop in self-ratings of class standing occurring between the ages of five and six (Nicholls, 1978) and a longitudinal study documenting decreased perceptions of competence from kindergarten to first grade in a sample heavily weighted with children experiencing academic difficulties (Vaughn, Haager, Hogan, & Kouzekanani, 1992). This study examined the changes in perceptions of competence of kindergartners from the fall semester (within two months of entering kindergarten) to the spring semester (after six months of kindergarten).

**Method**

**Participants**

The participants for this study were 168 kindergartners (mean age = 65 months) in regular education from 15 schools in a rural/suburban school district. Of the 88 boys and 80 girls participating in this study, 38 (23%) were African American and 130 (77%) were white. The number of subjects for the various analyses varied slightly due to missing data, but in no case was smaller than 161. Of the 33 kindergarten teachers in the school district, 31 agreed to participate in this study. Four (13%) of the teachers were African American and the rest (87%) were white.

Participation of both students and teachers was voluntary. Teachers were told that classroom observations would be done to code student–teacher interactions and that more information would be available after the study. None of the teachers refused to participate on this basis and all appeared to be satisfied with the feedback about the nature of the observations after the study.

Teachers sent parental permission slips home with seven students from their class. If a parent did not grant permission to participate, researchers attempted to contact another parent from the class until seven students from each class were identified to participate. The actual number of students participating from each class ranged from two to eight, with more than 90 percent of the classes having four or more participating students.
**Instruments**

**Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (PSPC).** The PSPC (Harter & Pike, 1984) employs an individually-administered, pictorial, forced-choice format to assess children’s self-perceptions in four areas. Although students completed the scale in its entirety, this study used only the six-item Cognitive Competence Subscale. For each item, the child selects as “most like me” one of two pictures depicting, for example, a child who “knows the first letter of her name” versus a child who “doesn’t know the first letter of her name.” Having made this dichotomous selection, the child refines the choice by pointing to a large or small circle underneath the chosen picture corresponding to “a little” or “very much” like me. Each item is scored on a four-point scale with higher scores indicating greater perceived competence. The subscale score is the mean across the six items. An analogous Likert scale allows for teacher rating on the same domain.

Based on a sample of 146 middle-class preschool and kindergarten children, Harter and Pike (1984) report an internal consistency of .67 for the Cognitive Competence Subscale. As evidence of validity, Harter and Pike report the results of studies that found that students were able to provide concrete examples to support their answers, children with higher scores chose to complete the harder of two puzzles, and retained students had lower scores. Research with this instrument has documented uniformly high scores (Harter and Pike, 1984; Harter & Chao, 1992); however, the standard deviations suggested adequate variability.

**Perceptions of being praised.** To assess how the children themselves perceived feedback from their teachers, the posttest data collection included a single item, using the PSPC pictorial format, depicting a child’s teacher who “often (or doesn’t often) tell her she does good work.” A similar version was administered for boys.

**Teacher observation system.** Portions of the Brophy–Good Dyadic Interaction System (Brophy & Good, 1969) were used in this study. Because the goal of the teacher observations was to examine the feedback that teachers gave to individual students, only verbalizations which were directed to the students participating in this study were coded.

Verbal feedback of praise and criticism were coded. Praise was defined as verbal compliments from the teacher which communicated a positive evaluation and went beyond communicating right from wrong. Criticism was defined as negative teacher comments that expressed criticism, anger, disgust, or frustration. This study did not differentiate the aim of the feedback (e.g., academic, behavioral, etc.) since previous research has suggested that very young children are not able to process such fine distinctions (Stipek & Tannant, 1984).

To ensure adequate reliability, the four researchers doing observations participated in training prior to the first observation. The researchers coded 100 typical classroom statements and placed them in the respective categories. Differences of opinion were discussed until a consensus was reached. This was followed by a second coding of 100 different classroom statements. The researchers then went to a classroom and coded actual behavior for six ten-minute intervals and met to compare results and discuss discrepancies after each interval. Reliability coefficients (Cohen’s kappa statistic) were calculated by pairing each researcher’s observations with the “expert rater” (first author). The reliability coefficient for the last of the six training periods for Researcher 1 (.97), Researcher 2 (.93), and Researcher 3 (1.0) were all over the .85 criterion suggested by Frick and Semmel (1978).

To ensure that there was no observer drift between the three classroom observations, researchers were retrained on the coding system. Between the first and second observations, researchers coded a set of 100 statements similar to those coded before the first observation. Training between the second and third observation consisted of each of the researchers accompanying the “expert rater” to a
classroom observation and doing parallel coding. All kappa coefficients for these written and live codings were above the .85 criterion.

**Procedure**

The PSPC was individually administered to each of the participating students in October and February. Follow-up visits to schools were made to ensure that all students participating were given both the pre- and posttest assessments. In early October, teachers were asked to complete the PSPC teacher rating form for each participating student in their class. The three one-hour observations began in November after the pretest, one per month. In total, 168 students were given the pretest assessment, 127 students were present for at least two of three classroom observations, and 161 students were included in the posttest assessment (because of change in residence or school program, seven students did not complete this study). The data from these students were included in a particular analysis if all the necessary data points were collected. Therefore, the number of subjects included in each of the analyses differs slightly.

Each participating student’s records were reviewed to collect the following demographic information: age, race, and score on the Maryland Observational Screening Checklist for Kindergartners (MOSCK). The MOSCK is a 25-item developmental checklist developed by the Maryland Department of Education with possible scores ranging from 0 to 25. It represents the teacher’s rating of a student’s competence on developmental tasks targeted to be mastered by all kindergartners by the end of the school year.

**Results**

Thirty-four students were missing during one of the three observations. Analysis indicated no significant differences in the frequency of verbal behavior between those having all three sets of observation data and those with prorated totals because of missing data for praise ($t(43) = 1.01, p = .317$) or criticism ($t(160) = -0.06, p = .954$). Consequently, all analyses used prorated data for those students missing during one of the observations. Table 1 outlines the mean frequency of each of the observed teacher verbal behaviors for students present for all three observations. An alpha level of .05 was used for all statistical tests.

**Stability and Accuracy of Kindergartners’ Perceptions of Competence**

Consistent with previous research (Harter & Pike, 1984), the children in this study reported high perceptions of competence. The means for the pre- and posttest administrations of the PSPC were 3.501 (standard deviation of .432) and 3.605 (standard deviation of .393), respectively, on a four-point scale. In this study, there was actually a significant (albeit slight) increase in perceptions of competence at the end of the first semester of kindergarten ($t(160) = 3.29, p < .001$). MOSCK scores were similarly high with a mean of 22.2 (standard deviation of 4.26) and scores ranging from 1 to 25.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Mean Frequency of Teacher Verbal Behaviors Totalled Across Classroom Observations for Each Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal behavior</td>
<td>$M$</td>
</tr>
<tr>
<td>Praise</td>
<td>9.16</td>
</tr>
<tr>
<td>Criticism</td>
<td>1.13</td>
</tr>
</tbody>
</table>

*Note.* Data are included for students who participated in all three observations.
There was a modest relationship between academic skills (MOSCK) and perceptions of competence ($r = .3936$, $p < .001$). Additionally, teachers’ ratings of children’s competence on the Teacher Form of the PSPC (compiled in October) were moderately related to the children’s October self-ratings in both cognitive ($r (159) = .37$, $p < .01$) and physical areas ($r (159) = .21$, $p < .05$). Teacher’s and children’s self-ratings of peer acceptance were not significantly related. The teacher rating scale of the PSPC did not include the maternal acceptance subscale so comparisons could not be made in this area. The present study does lend tentative support to previous assertions (e.g., Anderson & Adams, 1985) that children as young as five years old are beginning to make accurate judgments as to their competence. However, the high ratings on both the PSPC and MOSCK in this study suggests cautious interpretation of this relationship.

It is interesting to note that the kindergartners in this study may not have been accurate judges of the degree to which they were being praised. Their response to the supplemental question asking their perception of how often they were told that they did good work was not significantly correlated with the frequency with which they were actually praised ($r (160) = .036$, $p = .652$).

**Relationship Between Perceptions of Competence and Teacher Feedback**

An ordered regression was developed to examine whether teachers praised students with higher initial perceptions of competence or higher academic skills. The results of this analysis indicated that neither students’ academic skills (MOSCK) nor their initial perceptions of competence were predictive of the amount of praise they received from their teacher (Multiple $R = .059$; $F = .02$, $p = .88$).

A second analysis was done to determine whether the frequency in which a student was criticized differed for children with different levels of perceptions of competence or academic skills (MOSCK). As can be seen in Table 2, even when classroom teacher was controlled for, academic skills were predictive of the frequency with which a student was criticized (i.e., students with lower MOSCK scores received more criticism than students with higher scores). Students’ initial perceptions of competence did not explain a significant amount of additional variance.

**Effects of Teachers’ Verbal Behavior on Perceptions of Competence**

The amount of teacher praise a student received was not predictive of changes in his/her perceptions of competence from pre- to posttest. An ordered regression revealed that even when academic ability (MOSCK) was controlled for, the best predictor of posttest PSPC scores were the pretest PSPC scores. The frequency of teacher praise did not explain a significant amount of additional variance ($R^2$ change $= .002$; $F = .25$, $p = .618$). An analysis of the effects of teacher criticism on perceptions of competence yielded results similar to those found with praise. An ordered regression revealed that when academic skills (MOSCK) and pretest PSPC scores were controlled for, the amount of criticism a child received did not help to predict perceptions of competence at the end of the first semester ($R^2$ change $= .010$; $F = 1.92$, $p = .168$).

**Table 2**  
*Ordered Regression Using Classroom Teacher, Academic Ability (MOSCK), and Pretest PSPC Scores to Predict Frequency of Teacher Criticism*

<table>
<thead>
<tr>
<th>Predictors</th>
<th>df</th>
<th>Multiple R</th>
<th>$R^2$ Change</th>
<th>$F$</th>
<th>$p$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>30</td>
<td>.478</td>
<td>.228</td>
<td>1.47</td>
<td>.074</td>
</tr>
<tr>
<td>MOSCK</td>
<td>1</td>
<td>.582</td>
<td>.110</td>
<td>21.26</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Pretest PSPC</td>
<td>1</td>
<td>.582</td>
<td>.001</td>
<td>.11</td>
<td>.741</td>
</tr>
<tr>
<td>Residual</td>
<td>128</td>
<td></td>
<td>Mean Square  = 3.18</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Perceptions of Competence
Further analysis found that having a particular teacher was predictive of the amount of praise a student received. As can be seen in Table 3, when academic skills (MOSCK) and perceptions of competence were controlled for, the teacher variable accounted for a significant amount of the variance in frequency of praise. This suggests that the instructional style of the teacher, rather than the student variables sampled in this study, was predictive of the amount of praise a student received in the classroom.

Considering that the frequency of praise differs according to the style of the teacher, an analysis was done to determine whether having a particular teacher was predictive of changes in perceptions of competence after the first semester of kindergarten. The particular teacher a student had did not significantly add to predictions of perceptions of competence at the end of the first semester of kindergarten ($R^2$ change = .157; $F = 1.06, p = .397$).

**Discussion**

The purpose of this study was to examine the relationship between kindergartners’ perceptions of competence and teacher comments. Teachers did not praise students with higher perceptions of competence significantly more frequently than students with lower perceptions. Additionally, no relationship was found concerning the effects of teacher praise or criticism on changes in kindergartners’ perceptions of competence.

The failure to find a relationship between teacher verbal behavior and kindergartners’ perceptions of competence may have been due to the short time frame (four months) used in this study. It may also be that kindergartners do not receive teacher feedback as it was intended by the teacher. Weinstein (1989) found that younger children were less accurate than older children in understanding the expectations that teachers held about them and were less likely to report differential treatment. The response of the kindergartners in this study to the question asking them how often they were praised by their teachers indicated that these children were poor judges of how often they were actually praised by their teachers. However, most kindergarten students today have contact with many adults in their classroom via team teaching, inclusion of specialists, and volunteers so that it is uncertain whether children this age could make a separate judgement concerning their teacher only.

Additional post-hoc analyses investigated whether other self-perceptions measured by the PSPC were affected by the teachers’ use of praise or criticism. Teachers use of praise has a small ($R^2$ change = .023) positive relationship to changes in children’s perceptions of physical competence, but was unrelated to changes in perceptions of peer or maternal acceptance. Teacher criticism was not significantly related to any changes in self-perceptions.

This study recorded the frequency of praise and criticism in the classroom and assumed that all remarks had the same meaning for all students. Previous research has stressed that teacher feedback is perceived and understood differently by different students (Eshel & Kurman, 1991; Weinstein, 1989). In reality, many factors may determine how salient teacher feedback is to one’s perceptions.
of competence. A praising comment from a teacher who praises infrequently may have a greater effect on perceptions of competence than a praising comment from a teacher who praises more often.

Consistent with previous research (Cooper, 1983), this study found that the level of academic skills was predictive of the frequency with which a student was criticized (i.e., students with lower skills received more criticism than students with higher skills). Post-hoc analysis of the data also found that teachers’ ratings of children’s cognitive competence and peer acceptance on the Teacher Form of the PSPC had significant, but small correlations with their use of criticism ($r(159) = -.23$, $p < .01$; and $r = -.20$, $p < .05$; respectively). This could possibly represent either a slight under-rating of students of whom teachers are critical, or a slight tendency of teachers to be more critical of students whom they perceive more negatively.

These findings are consistent with a review by Brophy (1981) which reported that critical remarks were more frequent in lower ability classes than higher ability classes, even when taught by the same teacher. This finding is disturbing because previous research has found that criticism decreases the frequency with which students initiate interactions with their teachers (Cooper, 1977). This may potentially create a cycle which limits the lower ability students from making adequate academic progress (i.e., low academic skills leads to more criticism which leads to fewer student-initiated teacher interactions leading to continued lowered academic achievement).

A surprising finding of this study was that the instructional style of the teacher, rather than the students variables sampled in this study, was predictive of the amount of praise a student received in the classroom. It is possible that the relationship between individual student characteristics and teacher feedback varies with the teacher’s instructional style. This is consistent with previous research (e.g., Weinstein, 1989) as well as anecdotal evidence noted by the observers in this study. In some classes, less competent students were generally ignored and in other classes they became the focus of teacher energy and praise in an apparent effort to provide extra attention and instruction.

This study confirms previous research suggesting that preschoolers tend to have high perceptions of competence (Nicholis, 1978; Stipek & MacIver, 1989) but does not replicate findings of a drop in these perceptions in the kindergarten year (Vaughn, et al., 1992). Comparison of academic skills (as measured by the MOSCK) and kindergartners’ self-ratings of perceptions of competence lends tentative support to the assertion that preschoolers are beginning to report a more accurate sense of competence. However, this study used a developmental checklist in which most children scored quite well. The accuracy of kindergartner’s self-ratings may have been better examined if some measure of standardized testing was available.

The tentative support for the accuracy of kindergartners’ self-perceptions is consistent with both anecdotal evidence noted in this study that a few students qualified their response (e.g., “I can only do the small puzzles”) as well as previous research (Anderson and Adams, 1985). A meta-analysis of studies of self-perceptions by Hansford and Hattie (1982) supported this trend suggesting that relationships between self-perceptions and academic skills increase in strength during the elementary school period.

This study suggests several implications for educational practice. The finding that students with lower academic skills tended to receive more criticism paints a dismal picture of what school feels like to a less competent student. Professional school staff can help to break this cycle through staff development and inservice as well as strategic placement of low achieving students in classes in which teacher criticism is infrequent.

Educational leaders have been more vocal in criticizing the current trend to build self-esteem by increased classroom praise (Kohn, 1994; Hitz & Driscoll, 1988). Praise may have a benefit in that it cues students as to what outcomes are valued in our society (Stipek, Recchia, & McClintic, 1992). However, when used to build perceptions of competence, it is important to consider that illusory perceptions of competence may be associated with a failure to cope with school demands and may not
be a desired educational outcome (Eshel & Kurman, 1991; Strain, Kerr, Stagg, Lenkner, Lambert, Mendelsohn, & Franca, 1983). Perhaps the thrust of educational intervention in the area of perceptions of competence should be to help students develop more realistic appraisals. Curriculum changes including more focus on classroom objectives and individual mastery of these objectives may gear students toward personal improvement rather than measuring themselves against the performance of their classmates.

REFERENCES


