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The Relationship Between Preschool Teachers' Reports of Children's Behavior and Their Behavior Toward Those Children

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Abstract

The relationships between preschool children and their teachers are an important component of the quality of the preschool experience. This study used attribution theory as a framework to better understand these relationships, examining the connection between teachers' perceptions of children's behavior and teachers' behavior toward those children. One hundred seven preschool children and 24 preschool teachers participated in this study. Two teachers reported on each child's behavior using the Teacher Report Form of the Child Behavior Checklist. Commands and praise directed toward children by the teachers in the study were coded from classroom videotapes. Teachers gave more commands to children they perceived as having greater general behavior problems, even after controlling for the shared variance in the other classroom teacher's report of the child's behavior. Implications for school psychologists, teachers, and researchers are discussed.

Keywords

Preschool Teachers; Preschool Students; Teacher Student Interaction; Teacher Attitudes; Classroom Behavior

Teachers play a powerful and influential role in children's lives. Pianta (1999) argued that teacher-child relationships provide a resource for children's development. These relationships can nurture a child, improving developmental outcomes, or they can be a source of conflict and risk. Indeed, teacher-student relationships are linked with a variety of children's outcomes (Hamre & Pianta, 2005). In preschool settings in particular, teacher-child relationships have been shown to be more predictive of children's positive outcomes than macro-level factors such as program policies and quality of the classroom environment (Mashburn et al., 2008). Similarly, negative teacher-child relationships have been linked to poor behavioral and academic outcomes for young children, as well as negative attitudes about the school setting (Birch & Ladd, 1997; Decker, Dona, & Christenson, 2007; Garner & Waajid, 2008). In order to understand these important relationships—and promote their positive development—a research base is needed that addresses teachers' and children's perceptions of one another and their behavior toward one another in the context of these relationships. To that end, the present

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study examined the relationship between preschool teachers' perceptions of children's behavior and teachers' behavior toward those children.

Teachers' Perceptions of Children's Behavior

Behavior rating scales have long been a key measurement tool in psychological and educational research. These tools have many advantages, including ease of use and face validity. A disadvantage often noted, however, is the less-than-perfect agreement among informants in describing children's behavior. The discrepancies in behavior ratings arise because an informant's report of a child's behavior is not a simple measure of an objective, observable reality. It is not the case that a child's behavior is being "measured" as one might measure height with a ruler. Instead, the informant is reporting on the behavior he or she has observed, filtered through his or her own unique perspective.

A simple way to understand the complicated nature of behavior ratings is to consider each report of a child's behavior as being made up of three components: the objective, the contextual, and the subjective (Mangelsdorf, Schoppe, & Buur, 2000). The objective component of the rating reflects global characteristics of the child's behavior. The contextual component of the rating reflects the degree to which the child behaves differently in different settings (home vs. school, for example). Finally, the subjective component of the rating reflects the characteristics of the rater, as each rater of child behavior necessarily brings his or her own biases and interpretations to the rating task.

The objective/contextual/subjective constructs provide a framework for understanding agreement and disagreement across different informants in describing children's behavior. All reports of a child's behavior will overlap to some degree; this overlap is at least partly due to the objective component of the rating, that is, the child's actual behavior. All reports also disagree to some extent; this is at least partly due to the subjective component of the rating, the influence of the informant's individual characteristics and perspective. The influence of the contextual component can be seen when considering pairings of different types of informants.

The literature concerning the inter-rater reliability of behavior rating scales has documented that agreement levels differ based on informant role (Danforth & DePaul, 1996; Lee, Elliott, & Barbour, 1994; Schaefer, Watkins, & Canivez, 2001; Sourander & Piha, 1997). For example, in a meta-analysis of 119 studies concerning informant agreement, Achenbach, McConaughy, and Howell (1987) reported that the mean correlation for informants with similar roles (such as two teachers) was .60, representing only 36% shared variance. For informants in dissimilar roles (e.g., parents and teachers), the mean correlation was only .28, corresponding to less than 8% shared variance.

Consider the case of behavior reports from parents and teachers. Parents and teachers interact with the child in different contexts; as a result, they see different samples of behavior. Thus, the disagreement between a parent's and a teacher's report of a child's behavior is due to both the contextual component and the subjective component of the rating. For informants in similar roles, such as two teachers in the same classroom, the sample of behavior is the same. Thus, the agreement between reports is due to both the objective and contextual components of the ratings, whereas the disagreement in reports can be attributed to the subjective component. This study explored the latter case, using behavior ratings from teachers working in the same preschool classroom.

The subjective component of behavior ratings is a function of the role of perception and interpretation in the rating of a child's behavior. One common example of this influence is the so-called "halo effect." In the halo effect, an informant's impression of the child in one domain influences his or her description of the child in another domain. An example of this appeared

in a study exploring teachers' perceptions of the academic potential and behavior of young children. Espinosa and Laffey (2003) found that when teachers rated children as having behavior problems, they also rated those children as having low academic potential, compared to children who were not perceived to have significant behavior problems. When the children's mathematical skills were independently assessed, however, no differences were found between the behaviorally at-risk group and the not-at-risk group. Thus, Espinosa and Laffey concluded that "the behavioral ratings may confound the teacher perceptions of the students' academic abilities" (p. 150).

Attribution Theory

Attribution theory (Heider, 1958; Weiner, 1974) provides a useful theoretical framework for understanding teachers' perceptions of children's behavior. Attributions are the explanations individuals make for the events happening around them. One key dimension of attributions is the internal vs. the external. That is, is the action or outcome caused by the individual (an internal attribution) or by the situation (an external attribution)? These attributions may influence an adult's behavior toward a child (e.g., Medway, 1979). For instance, if a teacher attributes a child's misbehavior to an external cause, such as illness or a poor night's sleep, her response may be more lenient. On the other hand, if the teacher makes an internal attribution, such as habitual disobedience on the part of the child, then the teacher's response might be more restrictive, harsh, or punitive.

Pianta (1999) used the term "filters" to explain how an adult's perceptions of a child lead to potentially distorted interpretations of the child's behavior. In any adult-child relationship, the adult is likely to hold general perceptions of the child's characteristics; for example, the adult might believe the child to be bright, or lazy, or manipulative. The adult then automatically and unconsciously filters the child's behavior through these general perceptions, leading to interpretations of the child's behavior that mirror the adult's general perception of the child. These interpretations then affect the adult's behavior, leading to actions that may be more closely related to the adult's filters than to the child's actual behavior. For example, a teacher may describe a child as "lazy." If the teacher then sees that the child is reluctant to join in a group activity, the teacher may scold or punish the child. On the other hand, if the teacher's general impression is that the child is "shy," she or he will interpret the child's behavior as shyness and may be more likely to respond with gentle support or encouragement.

The attribution theory framework explains how the teacher's attributions of the child's behavior shape the teacher's behavior toward the child. In turn, then, the teacher's behavior toward the child shapes the child's behavior, often eliciting the expected behavior. This is the expectancy effect, or self-fulfilling prophecy. The most famous example of the expectancy effect is Rosenthal and Jacobson's 1968 study in which teachers were told to expect great intellectual gains from randomly selected students. By the end of the school year, those students had indeed made larger than normal gains, suggesting that a teacher's expectations, even when groundless, can have a significant impact on student outcomes.

The Link Between Teachers' Perceptions and Teachers' Behavior

With regard to behavioral, rather than academic, expectations, few studies address the relationship between teacher perceptions of children and teachers' behaviors toward those children (see DeVoe, 1991; Fry, 1983; Peter, Allen, & Horvath, 1983; Van Acker & Grant, 1996). The results of these studies suggest that teachers treat children more negatively when teachers perceive those children as having problem behaviors. The problem behaviors in these studies included aggression, hyperactivity, and lack of participation. The negative treatment by the teachers included giving more reprimands and commands, displaying more negative affect, and avoiding social interaction with the children.

Though limited, this literature suggests that teachers' perceptions of children influence their behavior toward those children. Of course, children's behavior itself will influence the way teachers and other adults behave toward them (Taylor & Carr, 1992). Bandura coined the phrase "reciprocal determinism" to describe the concurrent bidirectional influence of environment and behavior; that is, the environment influences behavior, and behavior influences the environment as well (Bandura, 1977). Given reciprocal determinism, additional measures of children's behavior are needed for studies such as these to separate the influence of a teacher's subjective perceptions of a child from the influence of the child's actual or objective behavior.

Stuhlman and Pianta (2002) conducted the only known study that examines teacher perceptions and behavior while taking child behavior into account. The participants in this study were a subset of participants in the National Institute for Child Health and Human Development Study of Early Child Care (NICHD-SECC). The researchers observed teacher and child behaviors in kindergarten and first-grade classrooms and interviewed the teachers about their relationships with their students. Observations of teacher and child behaviors were conducted using the Classroom Observations System for Kindergarten and the Classroom Observation System for First Grade, measures developed for use with the NICHD-SECC. Observations took place on a single day and included both time-sampled behavior and global ratings of child and teacher behavior. Time-sampled behavior described the frequency of the following teacher behaviors directed to the target child: total interactions, teaching interactions, positive affect, and negative affect. Coded child behaviors directed toward the teacher included compliance, noncompliance, negative affect, making a request, and social conversation. Observers also made global, qualitative ratings of the teacher's sensitivity, intrusiveness, and detachment, as well as the child's positive affect and self-reliance.

The Teacher Relationship Interview (TRI; Pianta, 1999) was used to assess each teacher's perception of her relationship with her participating student. During the semi-structured interview, teachers described the relationship with the child, providing examples of specific types of interactions and describing their own and the child's affective responses to these interactions.

Results indicated that the teacher's perception of the child predicted certain teacher behaviors, above and beyond the influence of observed child behavior. For instance, the teacher's expression of negative affect when discussing the child predicted more classroom interactions with the child, whereas the teacher's mentioning of compliance problems predicted *fewer* classroom interactions, controlling for child behavior as observed using the Classroom Observation System.

Preschool Teachers' Perceptions and Behaviors

Teacher-child relationships take on particular importance in preschool settings. Preschool teachers are often the first significant non-family adult with whom the child forms an ongoing relationship. Preschool teachers play the role of both caregiver and educator, providing the child with his or her first group learning experience and setting the stage for the child's future success or failure in the school setting. Despite the importance of this developmental period, the only extant research investigating the relationship between teachers' perceptions of preschool-aged children and teachers' behavior toward those children were conducted by Dobbs, Arnold, and Doctoroff (2004) and Hagekull and Hammarberg (2004).

One of these studies found that preschool children who were observed to misbehave frequently received more commands from their teachers outside of discipline situations than children who misbehaved infrequently (Dobbs, Arnold, & Doctoroff, 2004). That is, during those times when children were behaving appropriately, teachers tended to give more commands to the children who misbehaved frequently in other circumstances. Although misbehavior ratings were based

on observations of the classroom, rather than teachers' report, this finding suggests that children's behavioral history may influence the way their teachers treat them, irrespective of the children's behavior in the moment.

Hagekull and Hammarberg (2004) studied Swedish preschool classrooms and found that teacher-child interactions varied according to teachers' perceptions of children's behavior. In response to positive behavior, teachers were more likely to issue a restrictive response (threat, punishment, or criticism) to children whose behavior they rated as generally undercontrolled. In contrast, teachers were less likely to respond to positive child behavior in a restrictive way with children whose behavior they rated as generally overcontrolled. Attribution theory would suggest that the teachers perceived and interpreted the behavior of children differently, based on their previous experience with and general impressions of the child. Thus, the same child behavior led to a variety of teacher responses, depending on how the teacher's beliefs about the child filtered their perception of the child's behavior.

For school psychologists, the scarcity of research on teacher perceptions and behavior is particularly significant. Although there is an appreciation in the field of the importance of teacher-student relationships and teachers' perceptions of students, there is little data to reveal how a teacher's perceptions of a student are related to the way the teacher interacts with the student. This information is particularly needed for intervention programs in which teacher behavior and teacher-student relationships are addressed. Current teacher training programs (e.g., Webster-Stratton, Reid, & Hammond, 2001) do not emphasize the role of teachers' perceptions and attributions of children's behavior, most likely because of the absence of a fully-developed empirical literature on this topic.

The present study addressed this hole in the literature by investigating the relationship between preschool teachers' perceptions of children's behavior and their behavior toward those children. The first aim of this study was to identify the relationship between teachers' perceptions of children's behavior and teachers' behavior toward those children. It was expected that teachers' reports of children's behavior would predict their behavior toward those children. In particular, teachers' reports of children's externalizing behavior problems were expected to positively predict teachers' use of commands directed toward those children.

The second aim of this study was to determine if the subjective component of a teacher's report of a child's behavior is significantly related to the teacher's treatment of the child. As discussed above, when a child has two full-time teachers who each report on his or her behavior, the shared variance in the reports consists of the objective and contextual components. The remaining variance—unique to each individual teacher—can be understood to represent the subjective component of the report. It was expected that this component would be significantly related to the way the teacher behaves toward the child. Through this second aim, this study will provide much-needed information about the potential importance of teachers' subjective perceptions in determining teacher behavior.

Method

Participants

One hundred seven children (50 girls) participated in this study. Participants were recruited from 12 preschool classrooms at six child care centers in the Springfield, Massachusetts, area. Four of these centers primarily served economically disadvantaged families from diverse ethnic backgrounds, and two served a predominately Caucasian population of higher socioeconomic status. The racial/ethnic makeup of the children in the study was approximately 34% Puerto Rican, 33% Caucasian, 31% African American, and 3% multiracial. The children ranged in age from 3.4 to 5.3 years (mean = 4.5, $sd = .46$). Forty-five percent of the children lived in

single-parent homes. Parent education, as reported by the primary caregiver was as follows: 47% of parents had a college degree, 30% of parents had attended some college, 17% of parents had a high school diploma or the equivalent, and 6% of parents had less than a high school education. Only 51% of participating parents reported family income. The mean reported annual income was \$56,200, and the median was \$30,850.

Twenty-four teachers, all female, participated in this study. Ten of the teachers were Caucasian, seven were African American, and seven were Puerto Rican. Teachers had known the children approximately three months before filling out forms describing their behavior.

Procedure

This study was part of a larger project. Parents were introduced to the study through a letter sent home with children from each preschool center. Two teachers from each classroom completed behavior rating scales describing the behavior of each participating child. Research assistants visited each classroom and videotaped children and teachers during both free play and structured learning activities. Research assistants were instructed to focus the camera on one group of children for three minutes, scan clockwise for 30 seconds, and then focus on the next group of children for three minutes, and so forth. If all of the children were assembled in one location, the research assistant focused the camera on the entire class. The mean on-camera time was approximately 43 minutes per child.

Most classrooms were videotaped on a single day, but some classrooms were taped on two separate days to maximize the available sample of behavior. Though no formal measure of children's reactivity to the videotaping was collected, informal observations suggested very little reactivity. Children typically made no reference to the camera. In the rare instances when a child showed interest in the camera, this interval of the videotape was not coded.

Measures

Teacher report—Teachers completed the Teacher Report Form (TRF) of the Child Behavior Checklist (Achenbach, 1991) for each participating child in their class. This 113-item scale is one of the most widely used in clinical and research psychology. The TRF has been normed on children between the ages of 4 and 18, and has been used extensively with preschool children. There is extensive psychometric data confirming the reliability and validity of this measure (Achenbach, 1991). Cronbach's alpha ranges from .90 to .97 for the broadband scales used in this study. The test-retest reliability over 15 days ranges from .91 to .95 for those same scales. With respect to validity, the TRF successfully discriminates children referred for behavioral/emotional problems from non-referred children. Additionally, the scale is related as expected to other behavioral rating scales, such as the Conners' Rating Scale, and to children's psychological diagnoses.

The scales used in the present study are the three broadband scales: internalizing symptoms, externalizing symptoms, and total behavior problems. The pattern of inter-teacher agreement in this particular sample was similar to previous results reported in the literature (Achenbach et al., 1987), though with slightly higher levels of agreement on general behavior problems. The teachers in this study showed moderately high agreement in describing children's overall behavior problems ($r = .76$); in accordance with previous reports, there was greater agreement on externalizing ($r = .77$) than internalizing ($r = .49$) behavior.

Classroom observations—Trained research assistants coded the classroom videotapes for teacher-child interactions. The coders were blind to the purpose of the study, and had no contact with or additional information about the teachers and children on the videotapes. The training procedures involved weekly instructional group meetings and ample practice time. Coding

began only after the coders achieved an acceptable level of reliability on their training tapes. The coding process involved watching a target child and recording the interactions between that child and each of the various teachers in the room. Interactions with each teacher were coded separately. Teacher-child interactions were coded whenever they involved the individual child or a subset of the class. Interactions with the whole class were not coded, because this study was concerned with teachers' differential behavior toward individual children.

Although there are many different categories of teacher behavior, this study focused on two forms of teacher behavior, praise and commands. Praise and commands are among the most common types of teacher attention studied in preschool classrooms (e.g., Fagot, 1973; Stipek & Sanborn, 1985) and they have been shown to relate to children's task orientation and frequency of misbehavior (Corpus & Lepper, 2007; Hirallel & Martens, 1998). Additionally, praise and commands are clearly observable and easily quantified. They are useful behaviors to compare to one another, as both are verbal interactions, with praise having a positive valence and commands having a neutral-to-negative valence. In this study, both praise and commands were coded on an event basis. *Praise* was coded when a teacher expressed a favorable judgment about a behavior or product of the child. *Commands* were defined as verbal statements given with the intention of directing a child's behavior. A randomly selected subset of 47 children were independently coded by two separate research assistants to determine the reliability of the coding scheme. Intraclass correlations (ICCs) were used to measure the coders' reliability (for details on this procedure, see Bartko, 1976). ICCs were .82 for praise and .76 for commands. For those children whose teacher interactions were coded twice, one of the coder's data was randomly selected for use in the analyses of this study.

Results

Complete descriptive statistics for the TRF ratings (reported as T-scores) are listed in Table 1. Scores at or above 70 are considered to indicate clinical problems. Teacher behavior is reported as number of behaviors observed divided by the number of 30-second coding intervals in which the child appeared on camera. Ranges, means and standard deviations for teacher behavior are reported in Table 1.

The amount of teacher attention available in a particular classroom may vary substantially based on factors such as teacher-student ratio or the general level of misbehavior in a classroom. Thus, it is useful to consider teacher attention in relative terms; that is, how much attention does a child receive compared to other children in the same classroom? For this reason, the data concerning teacher behavior toward individual children was standardized within classrooms. Similarly, teacher perceptions of child behavior, as reported on the TRF, were also standardized within classrooms. In this way, a teacher's report of a child's behavior is measured relative to that teacher's report of the behavior of other children in the classroom. This allowed for meaningful comparisons across children and classrooms (is this child considered "average" by the teacher, or much above or below average?) and helped to reduce the problem of teachers using the anchor points on the rating scale in differing ways.

Correlations were run between teachers' reports of children's behavior (i.e., total problems, externalizing, and internalizing) and observed teacher attention (i.e., praise and commands). These correlations are listed in Table 2. Teacher commands were positively correlated with both the total problems and externalizing scales ($r = .27, p < .001$, and $r = .15, p < .05$, respectively). No other significant correlations were found.

Predicting Teacher Behavior From the Subjective Component of the Teacher's Perceptions

To address the second aim of the study, multiple regressions were performed to determine if teachers' perceptions predicted their behavior toward children, when controlling for the

other classroom teacher's perceptions of the child's behavior. In these analyses, the shared variance—the objective and contextual components—of the two teachers' perceptions was controlled, allowing us to consider the target teacher's unique variance—the subjective component—as a predictor of teacher behavior. The first regression included the target teacher's commands as the dependent variable, with the target teacher's ratings of total behavior problems and the other classroom teacher's ratings of total behavior problems as the independent variables. The standardized coefficient of the target teacher's ratings was .29 ($p = .01$). These findings support the idea that the subjective component of a teacher's perceptions of a child's problem behaviors are related to the number of commands the teacher gives the child.

The second regression was run in the same way, replacing the total problem ratings with externalizing ratings. The standardized coefficient of the target teacher's ratings of externalizing behavior was .15 (*ns*). The results of this regression were in the expected direction; however, they did not reach statistical significance. Neither were the results significant when teacher commands were regressed on internalizing ratings ($\beta = .16$, *ns*).

In the next set of regressions, the target teacher's use of praise was the dependent variable, with the target teacher's TRF ratings and the other teacher's TRF ratings serving as independent variables. In the case of total problem ratings, the standardized coefficient for the target teacher's ratings was .12 (*ns*). Similarly, the regression concerning the teacher's ratings of externalizing behavior had no significant results. When internalizing ratings were used as the independent variables, the standardized coefficient of the target teacher's ratings of internalizing behavior was .16 ($p = .075$). Although this result did not reach significance, the trend is worth noting to inspire future investigations. In this case, the direction of the trend suggests that teachers may give praise slightly more frequently to children whom they rate as having *more* internalizing problems, after controlling for the variance shared with the other teacher's account of the child's behavior.

Discussion

The first aim of this study was to identify the relationship between teachers' perceptions of children's behavior and teachers' behavior toward those children. As predicted, teachers gave more commands to children they reported as having more total behavior problems and more externalizing problems. This finding is in line with previous work that suggests teachers use commands in a pre-emptive attempt to control the behavior of children who frequently misbehave (Dobbs et al., 2004). There were no significant relationships between teachers' perceptions and their use of praise. Praise was used quite infrequently by the teachers in this study, so a floor effect may be at work here.

The second aim of this study was to determine whether the subjective component of a teacher's perceptions of a child is related to that teacher's behavior toward the child. That is, after controlling for the variance shared between two classroom teachers' reports of the child's behavior, does the unique variance of the target teacher's perceptions relate to the teacher's behavior toward the child? Regression results suggested that this was true in the case of teacher commands. Specifically, the teacher's perceptions of total behavior problems were significantly related to commands given, above and beyond what was accounted for by the other classroom teacher's report of the child's behavior. There was no significant result for externalizing or internalizing problems. These results partially echo the findings of the bivariate correlations, in which children who were perceived as having more behavior problems overall, and specifically more overt, active, and distracting behavior problems (the externalizing behaviors), received more commands from their teachers than children who were described as having fewer of these problem behaviors.

Teacher praise, in contrast, did not have any significant results. As noted, there is a possibility of a floor effect here. There was a trend in the direction that a teacher's subjective perceptions of internalizing behavior could be positively related to the amount of praise given by the teacher, above and beyond what is accounted for by the other teacher's report of the child's behavior. Given the relative lack of empirical literature addressing this question, it may be wise to be cautious in rejecting the possibility of a relationship between praise and teachers' subjective perceptions of children's behavior.

Although this study was not designed as a direct empirical test of attribution theory, the results are certainly consistent with that theory. Teachers' subjective interpretations of children's behavior, which doubtless include attributions for that behavior, were connected to teachers' behavior toward the children. Teachers gave children more commands when their subjective perception of the child was high in behavior problems. It may be that teachers attributed the child's behavior to a lack of control and thus they imposed external control in the form of frequent commands. On the other hand, there was some suggestion that teachers gave children more praise when their subjective perception of the child was high in internalizing problems. Perhaps teachers consider those children to be more in need of positive attention, or perhaps they find those children more likeable than other children.

Limitations

Though theory and common sense can propose possible explanations for the relationships described here, correlative findings such as these cannot reveal much about the process by which these differences emerge. Furthermore, these analyses do not permit conclusions of directionality or causation. Future researchers should consider experimental designs that allow for causal conclusions about the influence of teacher perceptions on teacher behavior. Direct manipulation of teacher perceptions or attributions of children's behavior could reveal more about the process by which teacher perceptions are related to teacher behavior.

The conclusions of this study are also limited by its cross-sectional nature. It would be beneficial to use a longitudinal design to examine how these relationships change over time. Additionally, only a small portion of the variance of teacher behavior is accounted for by teacher perceptions. Many other factors are likely to be involved in shaping a teacher's behavior toward a child, and it would be interesting to consider some of those factors along with teacher perceptions.

The collection of data by videotaping classrooms raises the possibility of children or teachers altering their behavior in response to the presence of the video camera. As noted in the method section above, informal reports of the camera operators and observations of the videotapes themselves suggested very little reactivity. However, no formal measure of reactivity was collected, and so possible reactivity is a limitation of this study. Additionally, as each classroom was videotaped on one or two days, the relatively small sample of behavior is a potential limitation as well.

Finally, the use of the TRF with a preschool population is a limitation of this study. Fourteen percent of the participating children were younger than 4.0 years at the time the study began. These children were slightly younger than the normative sample for this measure. At the time of the design of the larger study, from which this data is taken, the use of a rating scale normed on younger children was considered. Due to the measures available at the time, however, that would have required using two versions of the scale to measure behavior of the children in the study. It was decided that the use of two versions of the scale would raise more serious concerns than the slight age discrepancy. We think the issues raised by this study are important enough to outweigh the imperfection of the measure, but we acknowledge that it is a clear limitation. There are many more behavior ratings scales now available, with more finely-tuned

developmental foci, and future research would be well-served by using a scale specifically developed for the preschool age group.

Implications and Future Directions

These findings serve as an important reminder that researchers must be thoughtful when using teacher reports of children's behavior. It is important to remember that these reports are not an infallible measure of behavior, but are a reflection of the child's behavior (both globally and within a specific context) and of the informant's perception, which carries with it some amount of bias. This does not mean that researchers should abandon teacher reports; rather, they should be used thoughtfully, and with a full awareness of their strengths and limitations.

In addition to these methodological implications, this study has substantive significance as well. These findings emphasize the variability of the teacher-student relationship. Even teachers who interact with the same child, in the same setting, for the same period of time, may disagree in their descriptions of the child's behavior. Those disagreements are not merely trivial artifacts of measurement error. Rather, they are significant predictors of teachers' differential behavior toward children. It may be that those patterns of differential behavior lead to variations in children's classroom behavior and academic achievement. Researchers are encouraged to pursue these possibilities in future studies.

This study should also inform the work of school psychologists as they work with both teachers and students. It is important to remember that different informants will have different perceptions of a child's behavior. Thus, school psychologists are encouraged to gather input from a variety of sources when addressing a child's behavior problems. Additionally, school psychologists may wish to educate teachers about the role that perceptions play in influencing their behavior. Current teacher training programs (e.g., Webster-Stratton, Reid, & Hammond, 2001) designed to improve teachers' behavior management skills do not include much focus on perceptions of children's behavior. The results of the present study suggest that these programs might be strengthened by educating teachers on the power of perceptions. Finally, teachers are encouraged to be attentive to the potential power of student reputations, and parents are encouraged to be aware that their child's relationship with one teacher may be very different than his or her relationship with another teacher.

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References

- Achenbach, TM. Manual for the Teacher's Report Form and 1991 Profile. University of Vermont Department of Psychiatry; Burlington, VT: 1991.
- Achenbach TM, McConaughy SH, Howell CT. Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin* 1987;101:213–232. [PubMed: 3562706]
- Bandura, A. *Social Learning Theory*. Prentice-Hall; Oxford, UK: 1977.
- Birch SH, Ladd GW. The teacher-child relationship and children's early school adjustment. *Journal of School Psychology* 1997;35:61–79.
- Bartko JJ. On various intraclass correlation reliability coefficients. *Psychological Bulletin* 1976;83:762–765.
- Corpus JH, Lepper MR. The effects of person versus performance praise on children's motivation: Gender and age as moderating factors. *Educational Psychology* 2007;27:487–508.

- Danforth JS, DuPaul GJ. Interrater reliability of teacher rating scales for children with attention-deficit hyperactivity disorder. *Journal of Psychopathology and Behavioral Assessment* 1996;18:227–237.
- Decker D, M. Dona D, P. Christenson SL. Behaviorally at-risk African American students: The importance of student-teacher relationships for student outcomes. *Journal of School Psychology* 2007;45:83–109.
- DeVoe DE. Teacher behavior directed toward individual students in elementary physical education. *Journal of Classroom Interaction* 1991;26:9–14.
- Dobbs J, Arnold DH, Doctoroff GL. Attention in the preschool classroom: The relationship among child gender, child misbehavior, and types of teacher attention. *Early Child Development and Care* 2004;174:281–295.
- Espinosa LM, Laffey JM. Urban primary teacher perceptions of children with challenging behaviors. *Journal of Children and Poverty* 2003;9:135–156.
- Fagot BI. Influence of teacher behavior in the preschool. *Developmental Psychology* 1973;9:198–206.
- Fry PS. Process measures of problem and non-problem children's classroom behaviour: The influence of teacher behaviour variables. *British Journal of Educational Psychology* 1983;53:79–88. [PubMed: 6838759]
- Garner PW, Waajid B. The associations of emotion knowledge and teacher-child relationships to preschool children's school-related developmental competence. *Journal of Applied Developmental Psychology* 2008;29:89–100.
- Hagekull B, Hammarberg A. The role of teachers' perceived control and children's characteristics in interactions between 6-year-olds and their teachers. *Scandinavian Journal of Psychology* 2004;45:301–312. [PubMed: 15281919]
- Hamre BK, Pianta RC. Can instructional and emotional support in the first-grade classroom make a difference for children at risk of school failure? *Child Development* 2005;76:949–967. [PubMed: 16149994]
- Hiralall AS, Martens BK. Teaching classroom management skills to preschool staff: The effects of scripted instructional sequences on teacher and student behavior. *School Psychology Quarterly* 1998;13:94–115.
- Heider, F. *The Psychology of Interpersonal Relations*. Wiley; New York: 1958.
- Lee SW, Elliott J, Barbour JD. A comparison of cross-informant behavior ratings in school-based diagnosis. *Behavioral Disorders* 1994;19:87–97.
- Mangelsdorf, SC.; Schoppe, SJ.; Buur, H. The meaning of parental reports: A contextual approach to the study of temperament and behavior problems in childhood.. In: Molfese, VJ.; Modfese, DL., editors. *Temperament and personality development across the lifespan*. Erlbaum; London: 2000. p. 121-140.
- Mashburn AJ, Pianta RC, Hamre BK, Downer JT, Barbarin OA, Bryant D, Burchinal M, Early DM, Howes C. Measures of classroom quality in prekindergarten and children's development of academic, language, and social skills. *Child Development* 2008;79:732–749. [PubMed: 18489424]
- Medway FJ. Causal attributions for school-related problems: Teacher perceptions and teacher feedback. *Journal of Educational Psychology* 1979;71:809–818. [PubMed: 521550]
- Peter D, Allan J, Horvath A. Hyperactive children's perceptions of teachers' classroom behavior. *Psychology in the Schools* 1983;20:234–240.
- Pianta, R. *Enhancing relationships between children and teachers*. American Psychological Association; Washington: 1999.
- Rosenthal, R.; Jacobson, L. *Pygmalion in the classroom*. Holt, Rinehart, Winston; New York: 1968.
- Schaefer BA, Watkins MW, Canivez GL. Cross-context agreement of the Adjustment Scales for Children. *Journal of Psychoeducational Assessment* 2001;19:123–136.
- Sourander A, Piha J. Parent, teacher, and clinical ratings on admission to child psychiatric inpatient treatment: A study of cross-informant correlations using the CBCL, Rutter scales and the CGAS. *Nordic Journal of Psychiatry* 1997;51:365–370.
- Stipek DJ, Sanborn ME. Teachers' task-related interactions with handicapped and nonhandicapped preschool children. *Merrill-Palmer Quarterly* 1985;31:285–300.
- Stuhlman MW, Pianta RC. Teachers' narratives about their relationships with children: Associations with behavior in classrooms. *School Psychology Review* 2002;31:148–163.

- Taylor JC, Carr EG. Severe problem behaviors related to social interaction: II. A systems analysis. *Behavior Modification* 1992;16:336–371. [PubMed: 1385702]
- Van Acker R, Grant SH. Teacher and student behavior as a function of risk for aggression. *Education and Treatment of Children* 1996;19:316–334.
- Webster-Stratton C, Reid MJ, Hammond M. Preventing conduct problems, promoting social competence: A parent and teacher training partnership in Head Start. *Journal of Clinical Child Psychology* 2001;30:283–302. [PubMed: 11501247]
- Weiner, B. *Achievement motivation and attribution theory*. General Learning Press; Morristown, N.J.: 1974.

Table 1
 Statistical Description of Teachers' TRF Ratings and Observed Teacher Behavior

Scale	Minimum	Maximum	Mean	SD	Percent in Clinical Range
TRF Ratings					
Total Problems	31	76	50.0	8.74	2.0%
Externalizing	39	82	53.3	8.95	6.3%
Internalizing	36	71	46.9	7.68	1.0%
Teacher Behavior					
Praise	.00	.059	.0015	.0066	n/a
Commands	.00	.15	.021	.026	n/a

Note. Teacher behavior is recorded as the number of praises or commands coded divided by the number of 30-second intervals in which the child appeared on camera.

Table 2

The Correlations Between Teachers' Reports of Children's Behavior and Teachers' Behavior Toward Those Children

	Correlation (<i>r</i>) with		
	Total Problems	Externalizing	Internalizing
Praise	.07	-.06	.12
Commands	.27***	.15*	.09

Note. All data is standardized within classrooms. $N = 159$ to 205 . If there was no variability in a teacher's ratings for a particular scale or in the attention given by a particular teacher, standardized scores were not calculated for that classroom and those children were excluded from that correlation.

* $p < .05$.

** $p < .01$.

*** $p < .001$