

BOYS BEGINNING SCHOOL: BEHAVIOR AND PERFORMANCE

by

Jamie Delaney

BA, Carnegie-Mellon University, 1995

Submitted to the Graduate Faculty of

The School of Education in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy

University of Pittsburgh

2005

UNIVERSITY OF PITTSBURGH
FACULTY OF ARTS AND SCIENCES
COMMITTEE SIGNATURE PAGE

This dissertation was presented

by

Jamie Delaney

It was defended on

August 4, 2005

and approved by

Joan I. Vondra, Ph.D.
Committee Chair

Department of Psychology in Education

Carl Johnson, Ph.D.
Committee Member

Department of Psychology in Education

George Novacky, Ph.D.
Committee Member

Department of Computer Science

Eva Shivers, Ph.D.
Committee Member

Department of Psychology in Education

BOYS BEGINNING SCHOOL: BEHAVIOR AND PERFORMANCE

Jamie Delaney, Ph.D.

University of Pittsburgh 2005

Boys are being out-performed academically by girls in school. One possible explanation is that boys' higher activity levels may cause them to spend the early grades learning how to control their behavior rather than focusing on academics. It is possible that teachers may be more punitive toward active boys in particular, and if boys are disciplined more, perhaps they are more likely to see school as a punitive place. This may make it more difficult for boys to develop competence in school.

This short-term, longitudinal study examined gender differences in activity level and teacher-reported relationship quality with more active kindergarten students. In addition, data were gathered on the amount of correction received by all students, but particularly by boys who exhibited higher activity levels. Ethnicity of teachers and students was also examined, and qualitative case studies of the most active children were developed.

Participants were 29 kindergarteners in four classrooms in an urban, low-income, ethnically diverse elementary school in the Mid-Atlantic region of the United States. Data were collected via classroom observations, teacher report measures, grades and discipline records, and through open-ended interviews with teachers and consultants.

Study results indicate that, on average, boys were significantly more active than girls in this sample. Boys received more correction from teachers than did girls. No difference was uncovered in teacher affect expressed toward boys as compared to girls, and teacher affect did not appear to differ between African American and Caucasian children. Highly active children were disciplined more harshly than less active children. Case studies indicated that protective factors may operate for some active children, preventing high-conflict teacher-child relationships. Implications for further research and for teacher training are discussed.

TABLE OF CONTENTS

1. BACKGROUND	1
1.1. Kindergarten at Uptown Elementary School	2
1.2. Researcher Background and Beliefs	4
2. INTRODUCTION	6
2.1. Description of the Causal Model	9
3. LITERATURE REVIEW	13
3.1. Gender and School Performance	13
3.2. Gender, Activity Level, and Behavior	16
3.3. Disparate Discipline and its Effects on Children	18
3.4. Importance of Teacher-Child Relationships in Early Schooling	20
3.5. Teacher Relationships with Boys, Minorities and Poor Students	23
3.6. Ethnic Match between Teachers and Students	27
3.7. Summary	29
4. STATEMENT OF THE PROBLEM	31
4.1. Objective and Research Questions	32
5. METHODS	33
5.1. Participants	33
5.2. Design	33
5.3. Procedures	34
5.3.1. Study Payments	36
5.4. Measures	36
5.4.1. Demographics	36
5.4.2. School Records	36
5.4.3. Classroom Observations	37
5.4.4. Individual Student Profiles	37
5.4.5. Teacher-Rated Behavior and Relationships	39
5.5. Data Analysis and Statistical Considerations	39
6. RESULTS	41
6.1. Quantitative Analyses	41
6.2. Comparisons by Gender	42
6.3. Comparisons by Activity Level	43
6.4. Teacher-Student Ethnicity	45
6.5. Student-Teacher Relationship Quality	46
6.6. School Adjustment Outcomes	48
6.7. Qualitative Case Studies	49
6.8. Qualitative Case Summary	68
6.8.1. Behavior Management	68
6.8.2. Teacher-Student Match	69
6.8.3. Teacher Flexibility and Control	69

7. DISCUSSION	71
7.1. Gender and Activity Level	71
7.2. Disparate Discipline	73
7.3. Teacher Affect	74
7.4. Activity Level over Time	75
7.5. Ethnic Match	76
7.6. Student Academic and Behavioral Outcomes	78
7.7. Suggested Revisions to the Causal Model	79
7.8. Limitations	83
7.9. Implications for Teacher Training	85
7.10. Future Research	87
7.11. Conclusion	89
APPENDIX A	91
Qualitative Data	91
REFERENCES	127

LIST OF TABLES

Table 1. Teacher Affect by Teacher - Student Ethnic Match	45
Table 2. Mean Number of Corrections by Teacher – Student Ethnic Match	46
Table 3. Mean Number of Corrections by Teacher	46

LIST OF FIGURES

Figure 1. Causal Model.....	10
Figure 2. Baseline Activity Scores.....	42
Figure 3. <i>STRS</i> Percentile Scores for Highly Active Boys	47
Figure 4. Punishment, Conflict and Outcomes for Highly Active Children.....	48
Figure 5. Revised Causal Model.....	80

1. BACKGROUND

In the last 20 years, there has been a noticeable shift in American kindergartens. What began as a place to grow emotionally and socially has become a place of high academic expectations. The “children’s garden” is no longer a haven of naps, story time, snacks and learning colors and shapes. Children now spend the greater portion of their day in kindergarten learning math facts and letter sounds, answering questions designed to measure comprehension, and completing written work that must be finished in class or taken home for homework. This more rigorous version of kindergarten has been referred to as “kindergrind” by education writers in the popular press.

The change in speed in kindergarten may be attributable to a variety of influences, including the introduction of high-stakes testing for students at earlier grades in school, the accountability standards emphasized in the “No Child Left Behind” legislation, and/or even increased parental expectations of schools. Whatever the reasons for the shift toward a more academically oriented curriculum, learning standards in kindergarten have certainly been propelled upward (NAEYC, 2001).

This state of affairs particularly disadvantages low-income children, racial/ethnic minorities, and boys entering school, because they are likely to be less prepared both socially and academically for the transition to full-time schooling (Comer, 1988). The focus on academic seatwork differentially benefits those who have preschool experience, are familiar with school tasks, and are able to focus for longer periods of time. These indicators of readiness to learn are more often found in children from higher-income backgrounds, who have access to quality

preschools, summer programs, and other enriching school-like experiences. Similarly, an academically focused kindergarten environment is likely to give an advantage to girls over boys, because girls are often better able to focus and remain on task by age five, and they are also cognitively more ready for literacy learning, on average (Halpern, 1997; U.S. Department of Education, 2000). Boys are more active than girls at this age (Eaton & Enns, 1986), and they may need more physical activity and freedom to move than is allowed in many full-day academic kindergartens. These disparities in readiness among children may predispose more boys and students from low-income families to have a harder time adjusting to school and performing well in kindergarten.

1.1. Kindergarten at Uptown Elementary School

The school that is the subject of this study of kindergarten children is Uptown Elementary, which serves an urban, low-income, racially and ethnically diverse population in a state in the Mid-Atlantic region. The student makeup is 60% African-American and 40% Caucasian, and each kindergarten classroom serves between 12 and 16 students. (Students come and go with some frequency throughout the school year, so class sizes do not remain static.) The full-day kindergarten students attend one of 5 kindergarten classrooms on the first floor of the building; only four of the classes were available for this study. The four kindergarten teachers are all female; three of the teachers are Caucasian, one is African-American. There are three part-time aides who work in the kindergartens, two of whom are African-American.

The four kindergarten classrooms are together in a block with communicating doors, where it is possible to hear, and to some extent see, what is going on in other rooms. Teachers often talk to each other through the communicating spaces, and children freely move through these spaces to use the two child-size bathrooms. Children change classrooms occasionally for

group instruction, but they spend most of the full school day in their homeroom. The students sit in assigned seats at tables for between five and seven children, and their belongings, such as pencil boxes, crayons, and worksheets are kept either on the tables or in pockets marked with students' names that hang on the back of each chair. The rooms appear smaller than they are because they are crammed full of supplies, children's belongings, audio-visual and computer equipment, and decorative instructional materials that cover the walls and shelves.

Instruction in these classrooms is mostly teacher-centered, and much of the academic portion of the day is packed into the 8:30 a.m. to noon time period. Children generally begin the day with reading; complete written seatwork based upon the day's lessons, and then participate in smaller-group language arts instruction. This instruction involves the teacher drilling students, using a highly structured script, on vocabulary, sentence structure, and word choice. It is difficult for teachers to make these drills engaging for the children because of the scripts they must follow. Following language arts, children sit down to complete more written worksheets, then have a brief snack, and proceed to a math lesson. There is usually a short (5-10 minute) activity before lunch, such as a story, song, or free play. Children who finish their worksheets more quickly during the morning are permitted to color or read books at their desks until the next lesson begins. There are also four computers in each classroom, and each child has one approximately 10-15 minute structured computer session during the day. (The computers auto-prompt students to begin their sessions by presenting a picture of a particular student on the screen.) Afternoon activities include lunch, recess and some more varied, less structured lessons such as history and social studies, where students may produce a (usually highly scripted) project, such as a family tree, a poem about Dr. Martin Luther King, or a pilgrim hat.

Occasionally the kindergarten students are taken to the library or to see a play put on by another class.

It can be seen that this highly academic environment may present significant challenges for young (mostly 5-year-old) children, some of whom have little or no experience with preschool. The case is being made that additional barriers to a positive school experience in kindergarten may exist at Uptown School particularly for highly active children and boys.

1.2. Researcher Background and Beliefs

This study combines quantitative research methods with qualitative case studies of highly active children and their interactions with teachers. It may be helpful to introduce the researcher's background and viewpoint in order to frame the investigative approach, researcher preconceptions, and conclusions drawn from the qualitative piece of the study. My training in Applied Developmental Psychology in the School of Education at the University of Pittsburgh has influenced my beliefs about how the classroom functions as a context for development. I believe that teacher practices such as behavior management styles, instructional approaches, and the types of feedback provided to students in the classroom all influence children to some degree.

My research interests in the field of child development include issues around gender and gender biases as they operate both in schools (teacher practices), and in the family (parenting practices). I have a strong belief that differential treatment based upon gender may be harmful to children, particularly as they transition to formal schooling in kindergarten. In line with these views, I firmly believe that over-management of behavior in the classroom can be a negative factor in early schooling. Children vary widely in their need for activity in early childhood, and they possess varying degrees of school experience and school readiness. This individual variation can predispose some children to receive more criticism and negative feedback from

teachers than others. I also believe that children who are frequently punished in early schooling experience a negative environment in school, and they can end up being marginalized in the classroom when they spend frequent, long periods of time being removed from the activity of the classroom (timeout). Some punishments selected by teachers in kindergarten strike me as being particularly harsh for children who are five or six years old, and are in their first year of formal schooling. Examples include singling children out for isolation, sending kindergarteners to the principal's office, and excluding children from special trips or treats that the rest of the class is enjoying. (All of these punishments were observed at the school where this investigation took place.) I would argue that these measures are extreme and can be quite hurtful for such young children, and are inappropriate to the types of transgressions typically observed in kindergarten (such as being out of one's seat, or calling out in class).

Children who are highly active, bored, or unengaged (or some combination thereof) are likely to behave less appropriately, and it is my contention that micro-management of behavior can only exacerbate these problems, promoting more passive, unengaged behavior on the part of active students. In my view, another factor that is related to lack of engagement in the learning situation is the emphasis on didactic instruction, rote learning and solitary seatwork, because these practices promote passivity and require children to be self-motivated. In addition, learning material that is culturally irrelevant or lacks salience to children's lives also does not support student engagement or initiative.

In sum, the above stated ideas about teacher influences upon and transactions with children in the classroom context are what drives and underlies the current piece of research. My interpretations of the case profile data in the discussion section of this document will clearly reflect these biases.

2. INTRODUCTION

Boys are being out-performed academically by girls at the grade school level and, to some extent, beyond, as reflected by grades assigned and honors received (U.S. Department of Education, 2000; Pomerantz, Altermatt & Saxon, 2002). Scientists have proposed a variety of reasons for the appearance of this gender gap favoring females, including cognitive differences, maturity differences, and greater variability among boys in general.

One notion that invites more study is the idea that boys are *behaviorally* different from girls in a way that puts them at an early disadvantage in school; that is, that higher activity levels of male children may cause them to spend the early grades learning how to control their behavior (such as being out of their seats, making physical contact with other boys during circle time, etc.) rather than being able to focus primarily on learning tasks (Kindlon & Thompson, 2000; Zill & West, 2000). Expanding upon this idea, a controversial theory proposes that elementary school teachers (who are predominantly female) may look less favorably upon active boys (Childs & McKay, 2001; Sommers, 2002) and that their treatment of these boys may be more punitive or controlling than their treatment of other students (Erden & Wolfgang, 2004; Kindlon & Thompson, 2000).

This purported differential treatment is believed to damage boys' self-esteem, feelings of belonging, and motivation to succeed, at least in grade school. Indeed, the popular press has produced a range of articles asserting that boys are now the "disadvantaged sex" in American schools, such as the 2003 *USA Today* editorial: "Girls get extra help while boys get Ritalin," and *Business Week's* "The new gender gap: From kindergarten to grad school, boys are becoming the

second sex” (Conlin, 2004; see also Kleinfeld, 1998; Young, 2001.) However, there is a great deal of heated rhetoric and little empirical evidence to support or refute these assertions that boys are at a disadvantage in schools.

Research evidence does show that the early years of education can take on great importance for a child’s future academic success (Alexander & Entwisle, 1988; Entwisle & Hayduk, 1988). Learning patterns established early on can follow a child throughout his or her school career, influencing motivation and self-concept. Given increasing emphasis on academics in the earliest grades, behavioral distractions (whether due solely to gender differences or to teacher responses as well) could undermine boys’ learning, both in the short and long term. If boys really are disciplined more, or disproportionately more than are girls, perhaps boys more often view school as a punitive place. It is established in the education literature that boys are punished more often and more harshly than are girls (Erden & Wolfgang, 2004; Hyman, 1996). This may make it more difficult for boys to motivate themselves and to do well in school (Deci & Ryan, 1980; Ryan & Grolnick, 1986).

Many children from low-income families are at risk for negative school outcomes due to stressors associated with poverty, lack of family resources, and single-parent (or grandparent/foster) families. For these children, school can serve as a much-needed source of support and a positive influence (Comer, 1988, Rutter, 1983). However, if more active boys are more frequently corrected and/or more harshly disciplined, they are unlikely to feel supported, welcomed, or liked at school. The opportunity to facilitate the development of academic competence for at-risk children is then missed, because teacher disapproval and punishment of boys’ more active behavior will not encourage trust of and attachment to school and teachers.

Attachment to school has been linked to academic competence and motivation (Rutter, 1983), therefore, boys may be placed at increased risk for poor academic outcomes.

Effective discipline in the early grades can socialize children to the expectations of the classroom, promote positive behavior, and improve student decision-making *while* preserving a child's dignity and self-worth. However, when some children are disciplined disproportionately more frequently than their peers, or when certain demographic subgroups (such as boys, or African-American children) experience harsher, more reactive forms of discipline (such as shaming, yelling, and removal from the classroom) negative outcomes increase (Luiselli, Putnam, Handler, & Feinberg, 2005). Children who believe they are being "picked on" are less likely to feel accepted or valued in school, and are more likely to feel inadequate and to be rejected by other students. It is not being argued that discipline in kindergarten in and of itself is a negative thing. However, for children in the early elementary grades who are not deliberately disrupting class, but are more active and less focused than others, harsh punishment and over-management of behavior are unnecessary. In fact, they could actually *inhibit* learning because the teacher's correcting is likely to distract the active student or even the entire class (Sugai & Horner, 2002.). An excellent example of heavy-handed behavior management that repeatedly disrupts a classroom lesson can be seen on Page 84, Appendix A, (10:25 a.m.) in the child observation transcripts.

It is important to highlight the distinction made between children who are highly active, and those with behavior problems. Children with high activity levels, but *not* behavior problems (such as verbal or physical aggression, oppositional/defiant or intentionally disruptive behavior) are the focus here. It is argued that otherwise well-behaved boys who are highly active may be subjected to a less positive school experience through no fault of their own. Due to higher

average activity levels, boys in general may be constitutionally less equipped for the academic climate of today's kindergarten due (Eaton & Enns, 1986).

2.1. Description of the Causal Model

The current investigation is a short-term longitudinal study relying primarily upon observation of participants in a classroom setting. The aim was to dissect student-teacher dynamics in the first year of elementary school in order to examine: (1) possible gender differences in activity level, (2) any changes over time in boys' activity as they are socialized to school, (3) possible differences in teacher-reported relationship quality with more versus less active boys, (4) the amount of correction received by all students, but particularly by boys who exhibit higher activity level, (5) possible improved or deteriorating academic functioning among active boys with or without punitive teachers, and (6) the possible relationship between teacher-student ethnic match and the amount and quality of correction received. In addition, qualitative data were collected describing teacher-child interactions in detail. In an effort to understand what school is like for the *most* active children in the study, individual child profiles were developed incorporating information from extended classroom observations, teacher interviews, and interviews with key informants.

It is recognized in developmental psychology that a single influence or event alone is unlikely to meaningfully predict a child's later outcomes; children, their caregivers, and their environments all exert multiple influences upon each other. Developmental psychologists value Sameroff and Chandler's (1975) transactional model for its recognition that children not only experience shaping responses from caregivers, but indeed elicit certain responses from caregivers and the environment, or change the kinds of responses they experience through aspects of their own behavior, personality, and temperament. Both children and the important others in their

environments have the capacity to change over time; their behaviors, responses, and abilities do not remain static. The transactional paradigm is useful to this investigation because it can contribute to an understanding of classroom dynamics: how student characteristics, teacher characteristics and responses, and classroom demands or expectations affect the teacher-student relationship and child school outcomes. Figure 1 presents the causal model, which is a graphic depiction of the hypothesized relationships between variables.

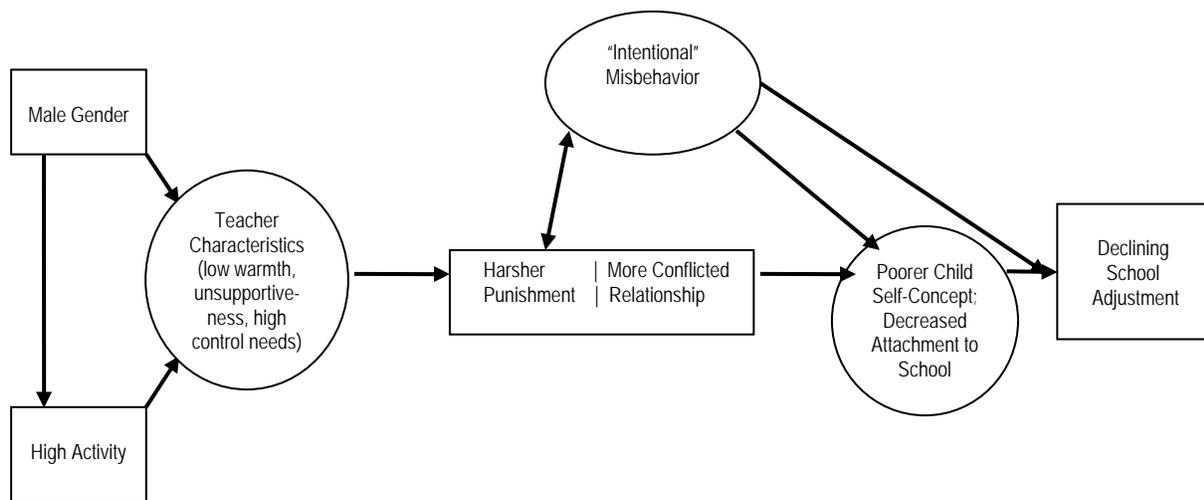


Figure 1. Causal Model

The model illustrates the presumed (circled) and hypothesized (blocked) relationships between the variables of interest. This study does not focus on the presumed mediating variables designated within the circles. Instead, it focuses on hypothesized sex differences in activity among kindergarteners, and whether certain teacher characteristics in combination with boys’ higher activity may result in more negative transactions between teachers and boys. This, in

turn, is hypothesized to engender more frequent and/or harsher punishment for active boys, and higher levels of conflict in the teacher-child relationship. The predicted result of these increasingly negative transactions is poorer school adjustment for active boys, through reduced trust in/attachment to school and lowered self-concept for these children.

An example using the causal model to illustrate how these transactions might take place in the classroom follows. A teacher in an academically focused kindergarten might value highly the well-behaved, high-achieving children in her classroom, because their behavior and performance could be seen as reflecting well on her teaching ability. Such a teacher would **not** be a good fit for a highly active boy who enters school less ready for the attentional and behavioral demands of the typical academically focused classroom. Such a child would likely roam about the classroom during seatwork, stand, lean, wiggle and/or make contact with others while working on assignments, and elicit similar behavior from some of the other children in the classroom. In response, the teacher is likely to find him increasingly difficult to have in class and to become even less likely to respond positively to the child. Although he does not intentionally break classroom rules, the teacher views his behavior as a discipline problem, perhaps even an intentional disruption of her efforts, so she frequently rebukes him and confines him to a desk that is separate from the other children in the classroom. Regular conflict between teacher and student might ensue, and the boy may come to dislike being at school, losing motivation to learn. He may respond by intentionally conforming less to the teachers' behavior standards as he loses interest in schoolwork, thus fueling the teacher's irritation with him. The end result could be a child with declining motivation and performance, an increasingly fractious relationship with his teacher, and a waning image of himself as a competent student. This occurs

through no fault of the child's, but through a constitutional propensity to be more active than other children, combined with a teacher's lack of tolerance for this high activity level.

The preceding example describes the hypothesized transactional processes through which a poor teacher-student fit negatively affects the child's academic self-concept and desire to achieve. This study explores relations among child gender, child activity levels, teacher responses, and child outcomes in an academically focused kindergarten environment. Both quantitative and qualitative data were generated to present as complete a picture as possible of the dynamic processes at work in the kindergarten classrooms examined. Results help to inform the debate about whether *many* boys really are behaviorally more active than girls in the early grades and whether this difference makes the learning environment either more punitive for boys and/or more difficult for boys to succeed in.

It is important for educators to know what amount of truth there is, if any, to claims that one sex is systematically disadvantaged in early schooling because of increasingly high (and for many boys, developmentally inappropriate) academic and behavioral expectations. This investigation has the potential to help us better understand the experiences and needs of boys in the earliest year of school, and to increase knowledge of classroom social dynamics in early education.

3. LITERATURE REVIEW

In this section, evidence supporting the idea that boys may be underperforming in school will be reviewed. The causal model illustrating *how* boys' school performance may be negatively affected through transactions in the classroom will then be re-introduced, because the model will be used to organize the rest of the literature reviewed.

3.1. Gender and School Performance

Boys are more likely than girls to be served by special education programs, and they make up 68% of students labeled as learning disabled (U.S. Department of Education, 1999). On average, boys achieve some key early academic milestones later than girls (such as learning to read and write), and this is thought to be related to a slower rate of cognitive maturation among boys. Cognitive immaturity may cause boys to be more frequently misdiagnosed with learning disabilities (Halpern, 1997; Shaywitz, Shaywitz, Fletcher & Escobar, 1990).

Girls receive better grades than boys in school, score significantly higher on tests of reading and writing, and are less likely to drop out of school or repeat a grade (Sadker & Sadker, 2002; U.S. Department of Education, 2000). In addition, female students in elementary and middle-school have closed the gap considerably with regard to average scores on math achievement tests (Hyde, Fennema & Lamon, 1990), and they elect to take more Advanced Placement exams (US Department of Education, 2002). More women go on to obtain college degrees than men, and this difference is growing each year (Halpern, 2004). However, there is evidence that boys out-perform girls in the sciences in elementary school and beyond (Lee & Burkam, 1996; Mullis, Martin, Beaton, Gonzales, Kelly, & Smith, 1996). Males also enter the lucrative, traditionally male-dominated fields of science, engineering and computer science in far

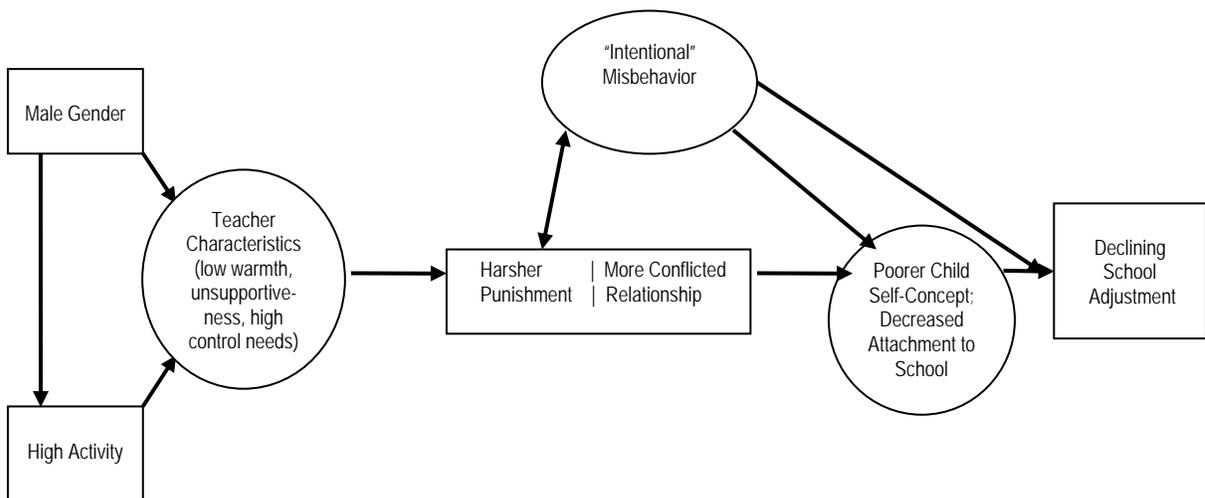
greater numbers than do females (Mendoza & Johnson, 2000). This area of male dominance has been explained by researchers as being attributable, at least in part, to the perception by women that the culture surrounding these fields is hyper-masculine and intimidating (Margolis, Fisher & Miller, 2000).

In a recent study of over 900 lower- to middle-class elementary schoolchildren in fourth grade, girls were found to out-perform boys in the classroom across all four subjects studied: math, science, language arts and social studies (Pomerantz et al., 2002). A comprehensive cross-sectional study of over 7,000 students in a Minnesota school district analyzed achievement test data and grades for students from kindergarten through 12th grade in order to examine gender differences, and overall findings indicated that boys were over-represented at the lowest end of the achievement spectrum, and disproportionately more girls achieved at the highest levels (Du, Weymouth, & Dragseth, 2003).

In 1998-99, the U.S. Department of Education conducted the Early Childhood Longitudinal Study (ECLS-K) of children entering kindergarten (Zill & West, 2000). Findings from this nationally representative sample of kindergarteners indicated that boys and girls begin school on fairly equal footing: although boys are slightly behind girls in reading skills, other academic readiness indicators are not significantly different. Boys do, however, demonstrate a behavioral disadvantage relative to girls, tending to be more disruptive and less attentive in class. Like many studies of students' academic performance and behavior, this investigation relied exclusively upon teacher ratings of student abilities. A superior methodology would have supplemented teacher ratings with additional measures (such as objective test data, parent reports, and classroom observations) so that multiple perspectives on student functioning would be represented.

To understand why boys may be academically disadvantaged, it is important to consider the possible relevance of sex differences in activity level. It is theorized that boys' higher activity may lead to gender differences in the amount and type of punishment meted out in schools, and to poorer teacher-child relationships for boys. Therefore, literature regarding disparate punishment for boys in school will be reviewed. Evidence will then be summarized demonstrating links between the quality of early teacher-child relationships and later achievement and behavior in school. Specific data supporting the assertion that teacher relationships with boys are less positive than those with girls will then be presented, and the argument will be made that this can negatively affect school experiences - and outcomes - for boys. Ethnic match between teacher and student is also being considered because it could affect the quality of teacher-student relationships and the larger school experience for boys.

The argument is that teacher perceptions of boys as being harder to manage due to higher activity, and their more negatively charged interactions with these boys, may ultimately hinder boys' adaptation to the school environment. This, in turn, may place more active boys at greater risk for poor academic outcomes.



The literature presented below pertains to each portion of the causal model that relates to the focus of this investigation.

3.2. Gender, Activity Level, and Behavior

Conflicting findings exist in the literature regarding gender differences in activity level. Several early studies reported no sex differences in activity in infancy (Kagan, 1971; Willerman & Plomin, 1973), whereas others documented more activity among male infants (Maccoby & Jacklin, 1973; Pedersen & Bell, 1970). At least one cross-cultural study found that results regarding activity level depended upon both child age and nationality. Using a sample of toddlers recruited from a California hospital, Maccoby and Feldman (1972) showed that boys were more active at age 2, but not at age 2^{1/2} or 3. When the researchers performed the same study with Israeli toddlers raised on a kibbutz, no sex difference in activity level was evident, suggesting that the sex difference is not a robust effect. Eaton and Enns (1986) attempted to put the issue of sex differences to rest by conducting a meta-analysis of sex difference studies of children and adolescents (ages ranging from neonate to fifteen years). Their findings supported a higher average activity level for boys, but this finding was influenced by a greater proportion of boys at the extreme or highest activity end of the distribution. As a group, boys differed from girls overall by half a standard deviation, an effect size described as large by the authors. In contrast to Maccoby and Feldman's (1972) results for toddlers of different age, the meta-analyses also showed an increase in sex differences in activity with child age. The developmental pattern could explain some of the conflicting evidence from studies of infants and very young children, where the effect size appears to be smaller.

Evidence that teachers find active students less gratifying to teach comes from Martin and colleagues (1986), who rated activity and distractibility for all students in 6 first-grade

classrooms. Teachers were then asked to choose three students they would like to teach again, and three students they would like to remove from their class. The ‘remove’ group was significantly more active and distractible than the other children, and those in the ‘teach again’ group were significantly less active and distractible. Teacher-child relationships were probably less positive for those students the teachers wished to remove (the authors termed these children the ‘rejected’ group). We can also infer that teachers who must put up with undesirably active student behavior in the classroom find it aversive. A British study of family background and student behavior (as rated by teachers) using a sample of 9- to 11-year-olds from primarily low-income, urban homes found that teachers rated most children as well-behaved. However, 20% of the male students - as opposed to 0% of female students - were rated “poor” or “very poor” on the behavior measure. Boys from home backgrounds rated as poor quality by teachers had the lowest behavior ratings (Riding & Fairhurst, 2001).

Based on results from the longitudinal study in Australia described previously, Childs and McKay (2001) concluded that boys from low-income families – as opposed to middle-income families - exhibit more activity in the classroom, and that this was subsequently related to negative teacher perceptions of these students at ages 5 and 7. The current investigation adds to these findings by helping to explain whether it is the active but otherwise well-behaved students or students with more deliberate behavior problems who are experiencing more negative teacher-student relationships.

Another large, longitudinal study, this time of 3- to 8-year-old school children in Australia, examined behavior and temperament differences in boys and girls (Prior, Smart, Sanson & Oberklaid, 1993). Though both teachers and parents rated the boys as being more difficult and exhibiting more behavior problems, parent ratings and independent observer ratings

of activity levels at home were not different for boys and girls. This finding supports the idea that perceived behavior differences between boys and girls may be attributable to a higher incidence of behavior *problems* among boys (such as aggression and oppositional/defiant behavior), rather than the idea that boys are generally more active than girls. Perhaps boys gain the reputation in elementary school of being more active, distractible, and “difficult” due to the conspicuously negative behavior of a few problematic boys in the classroom. Alternatively, the behavioral constraints and attentional demands of the classroom may accentuate differences in activity level that are less apparent in the less-structured context of home life.

Overall, the literature on human activity level seems to support gender differences in behavior. However, several studies suggest that these sex differences might be attributable, in part, to a small subset of boys who also have “clinical” behavior problems. The current investigation should help determine whether high activity males, in particular, are perceived and/or treated similarly to students evidencing intentional behavior problems. If boys really are more active, their behavior is ill-suited to the academically focused kindergarten classroom agenda, where the emphasis is on self control and on-task behavior. This mismatch may predispose active boys, as well as children with more intentional misbehavior, to being singled out for correction or disciplinary action in the classroom, causing them to experience the classroom as an unfriendly, punitive place.

3.3. Disparate Discipline and its Effects on Children

It is well documented in the literature that boys are punished more often than girls and receive harsher discipline than girls in schools. In middle and high school, boys are more likely than girls to receive corporal punishment in school, and to be sent to the principal’s office or be suspended (Du et al., 2003; Skiba, Michael, Nardo & Peterson, 2004). In a study of 130 public

school teachers of pre-K, kindergarten, and first grade students in the Southeast, teachers reported that they were more likely to use consequences and control as their discipline approach with a male student, but reasoning and negotiation with female students who committed the *same* infractions (Erden & Wolfgang, 2004). Greater teacher reliance on power and control with boys is corroborated by Hyman (1996), who conducted a meta-analysis of studies on corporal punishment in the schools. Findings suggest that boys, minorities, and children from low-income families are more likely to be physically disciplined at school than are other students. Unfortunately, researchers have not been able to establish whether boys simply misbehave more often, or are corrected or disciplined *disproportionately* more often, thus receiving the negative feedback.

Supportive teacher interactions with students are predictive of positive student behavioral and academic outcomes (Hamre & Pianta, 2001; Pianta, 1999). Experimental studies support the hypothesis that feedback from parents and teachers has an effect on child self-concept (Deci, Cascio & Krusell, 1973; Deci and Ryan, 1980). Negative feedback related to a child's school performance undermines students' enthusiasm and feelings of academic competence. Conversely, positive feedback is linked to enhanced achievement for schoolchildren (Anderson, Manoogian & Reznick 1976; Deci, 1971). Teachers' strict control of students has been found to be negatively related to child self-esteem, problem-solving performance and creativity (Ryan & Grolnick, 1986).

Studies from the parenting literature support the idea that caregiver warmth and positive affective quality of the caregiver-child relationship are positively related to child IQ and achievement (Estrada, Arsenio, Hess, & Holloway, 1987; Radin, 1971). This fits well with the idea that teacher acceptance of individual students' traits promotes academic competence, trust

and attachment to school (Coopersmith and Feldman, 1974; Pederson, Faucher & Eaton, 1978; Pianta, 1994, Rutter, 1983).

This study helps to explain whether boys in kindergarten experience disproportionately more frequent correction, and whether very active but otherwise well-intentioned boys are being punished more often or more harshly than are other students. Referring back to the causal model, it is hypothesized that more frequent and/or harsher correction for boys is linked with more negative teacher-child relationships. Therefore, literature on the importance of these relationships to child school adjustment is reviewed in the next section.

3.4. Importance of Teacher-Child Relationships in Early Schooling

Teachers are influential in the academic lives of children; therefore it is reasonable to expect that relationships between teachers and students shape future student academic performance to some degree. This idea is supported by findings that relationship quality between teacher and child is significantly correlated with early school performance and adjustment to school (Birch & Ladd, 1997; Pianta, 1997), and that relationships with teachers in kindergarten predict later behavior and achievement in school through the eighth grade (Hamre & Pianta, 2001). Experiences with one particular teacher may even alter academic outcomes (Pederson, Faucher & Eaton, 1978).

Over the past 15 years, Robert Pianta and his colleagues have developed a body of research pertaining to teacher-child relationships in the school setting, using the *Student-Teacher Relationship Scale (STRS)* (Pianta 2001). The *STRS* was developed and validated based upon the principles of attachment theory. Characteristics of teacher-child relationships that are similar to the components of attachment in mother-child relationships described in the parenting literature include dimensions of conflict, closeness, and dependency (Pianta, 1994). Most of the research

literature summarized here uses the *STRS* to measure the quality of student-teacher relationships, except where otherwise noted.

One indicator of the potential importance of teacher-student relationships in the early years of school comes from a study of 206 kindergarten children and their teachers from both urban and rural Midwestern schools (Birch & Ladd, 1997). A robust correlation was found between negative teacher-child relationships and poorer school adjustment among students. Teachers reported more conflict with and less cooperation from boys. Higher levels of conflict in turn predicted poorer attitudes about schooling as reported by students. This teacher-reported conflict with boys supports the argument that boys experience a more negative school environment. Closer, more positive teacher-child relationships, in contrast, were associated with students' better school adjustment and higher levels of engagement.

A second longitudinal study of 490 children, followed from preschool to first grade, provided evidence that teacher-child relationships moderately predicted academic outcomes for first-graders after statistically controlling for family socioeconomic status (SES) and prior achievement (Pianta & Stuhlman, 2004). This study also documented that conflict in teacher-child relationships tended to be stable over time, whereas teacher-child closeness was more variable (that is, if a student was close with the kindergarten teacher, this didn't necessarily predict a good relationship with the child's first-grade teacher). Teacher-child conflict and lack of closeness were also linked to higher levels of child behavior problems in school. The study is notable because the authors supplemented teacher ratings with classroom observations of child behavior and academic achievement, thereby reducing the bias that is potentially introduced when a single rater reports on several study measures.

In a study of kindergarten teachers and 436 kindergarten students representing a city school district, researchers concluded that when teachers characterized their relationships with students positively, better school adjustment in the following year (first grade) was evident. Furthermore, negative teacher-child relationships in kindergarten predicted poorer school adjustment and more behavior problems for first graders (Pianta, 1994). Whether this is due to continuity in student competence, teacher effects, or some third variable is, of course, unknown.

Identification of particular child behaviors that relate to the quality of teacher-child relationships comes from a study of 199 kindergarteners from low- to middle-SES families in the Midwest (Birch & Ladd, 1998). The 17 Caucasian female teachers rated their relationships with boys as more conflicted, and relationships with girls as closer. The researchers also categorized the behavior of individual children through observation. Those children who were more likely to be aggressive, hyperactive and/or distractible were both a) more likely to be boys and b) more likely to have conflict in the teacher-child relationship. Perhaps the most important finding for the purposes of this investigation was that several female students who exhibited the negative behaviors described above also had relationships with teachers that were more conflicted and less close. Thus, behavior problems are another salient predictor of poorer teacher-child relationships, independent of child gender and high activity.

It has been demonstrated that teacher-child relationships are a useful predictor of school adaptation and academic outcomes for students in the earliest years of schooling. Determining the extent to which teacher-child relationships differ by gender - or other subgroup membership - is important because it can help teachers recognize the impact of their feelings about and responses to subsets of students who are at risk for negative school outcomes.

3.5. Teacher Relationships with Boys, Minorities and Poor Students

By measuring the quality of teacher-student relationships, this investigation assessed teacher perceptions of focal student subgroups: highly active kindergarteners, boys, and African-American students. As previously noted, several investigators have independently documented that female teachers rate their relationships with boys more negatively than their relationships with girls (Birch & Ladd, 1997; Childs & McKay, 2001; Hamre & Pianta, 2001; Murray & Murray, 2004). For example, a longitudinal study of teacher-student relationships and student functioning found that kindergarten teachers reported more conflict and less closeness with male students than with females. When teachers rated their relationships less positively, this predicted poorer behavior and academic performance for the children over the subsequent eight years of school (Hamre & Pianta, 2001). These predictions were particularly robust for boys and for students of both genders who exhibited behavior problems.

Family socioeconomic status can complicate the picture of relationships between teachers and students of different gender. Childs and McKay (2001) studied children from lower- and middle-income families over the first three years of school in Australia, and found that the most negative initial impressions of students held by teachers were directed toward boys from low-income families. Even the girls from low-SES homes who displayed behavior problems in school did not appear to elicit such negative reactions from their teachers. The same authors reported that teacher perceptions of male children from low-income families as “distractible, hard-to-manage boys” were stable over the three years of the study, even though different teachers rated the same children each year (Childs & McKay, 2001, p. 304). The authors theorized that a negative reputation gained in kindergarten follows children into subsequent grades, perhaps partly via teachers’ communications about those students they perceive as being particularly difficult to cope with.

Further evidence of the relevance of teacher-student relationships to this study comes from an urban, low-income, predominantly minority sample of 127 third- through fifth-graders. In this study, gender, race, and behavior were each linked to teacher-student relationship quality (Murray & Murray, 2004). African-American students, boys, and those with behavior problems had poorer relationships with teachers (as rated by teachers). The most negative relationships were those of students with behavior problems, which were rated by teachers using the *Child Behavior Checklist*. The population sampled for the current study will include African-American children and boys, and presumably some highly active boys, but will exclude any participants with what might be called “intentional misbehavior”, such as defiance, willful disruption of classes, and aggression. Teacher ratings were used by Murray and Murray to assess all constructs of interest, presenting a threat to study validity. When subjective reports from a single rater are used to measure both predictor and criterion variables in a research study, bias is introduced through response sets and halo effects (both of which artificially inflate patterns of association among measures). Among other things, raters often have difficulty separating their overall impression of an individual student from the particular variables they are evaluating.

A three-year longitudinal study, following a nationally representative sample of preschoolers into kindergarten in four states across the U.S., provided data on consistency in teacher-student relationships from year to year (Howes, Phillipsen & Peisner-Feinberg, 2000). Teacher-student relationship quality (that is, relative rank within the sample) remained stable over two years of preschool and the kindergarten year. This was in spite of the fact that a different teacher made the ratings each year, and that kindergarten teachers did not know preschool teachers. This study failed to document significant gender differences. Rather,

children of either gender with behavior problems had significantly poorer quality relationships with teachers.

A study of pre-service teachers' relationships with a racially diverse sample of 903 elementary students in kindergarten through fifth grade again revealed that elementary teachers experience more conflict and less closeness in their relationships with boys (Kesner, 2000). The sample for this study included 46% African-American students and 9% other ethnic minority students, but socioeconomic status for the students was not reported. The only difference the researchers found with regard to child race was that Caucasian teachers reported more dependency in relationships from African-American students. Results should be considered with caution, however, because pre-service teachers differ from in-service teachers in some important ways relevant to forming relationships with students (e.g., they spend less time in the classroom and they are only partially responsible for classroom management and discipline). This may explain why prior findings were not replicated linking teacher-student relationship quality and child race.

It is difficult for researchers to measure teacher-child relationships from the kindergarten student's perspective, because young children have difficulty both understanding the researcher's intent in rating scales and providing reliable reports of their own behavior (Mantzicopoulos & Neuharth-Pritchett, 2003). However, at least one study attempted to measure teacher-student relationships from both teacher and child perspectives. A group of Head Start pre-schoolers, kindergarteners and first-graders from low-income families reported on their relationships with teachers, who were predominantly Caucasian females. Boys, particularly African-American boys, reported higher levels of conflict with teachers than did girls. In turn, children who characterized their relationship with teachers more negatively scored lower on achievement tests

and displayed more behavior problems than their peers (Mantzicopoulos & Neuharth-Pritchett, 2003). Teacher ratings of their relationship with these students correlated only modestly, however, with student ratings (r 's ranged from 0.17 to 0.27, $p < .05$). Perhaps agreement was not stronger, in part, because a different instrument had to be devised for the sample of young children, with rating scale items such as "My teacher is mean" and "My teacher likes me" (*Young Children's Appraisals of Teacher Support [Y-CATS]*, Mantzicopoulos & Neuharth-Pritchett, 2003).

Along different empirical lines, results from a study of student gender and reading disabilities among elementary school children supports the argument that teachers may be biased in certain ways against boys. Boys were identified more often as being reading disabled when the diagnosis was made by teachers or other school personnel (Shaywitz et al., 1990). But when testing by outside reading specialists was used to diagnose reading disability, there was no significant difference in the number of boys versus girls with reading disabilities. The authors speculated that boys' higher activity level may bias the perceptions of school staff diagnosing students. This study illustrates how teacher perceptions of active boys could negatively affect something as seemingly straightforward as diagnosis of a specific learning problem.

Based upon the research summarized here, it appears that teachers often rate their relationships with male, minority and/or low-income students - all of whom tend to show more classroom behavior problems - more negatively. This is likely to exacerbate any negative attention these children presumably receive in the classroom, quite conceivably placing boys, and particularly low-income and minority boys, at a disadvantage in early schooling. Referring back to the causal model, more negative or conflicted relationships with teachers are hypothesized to result in declining school adjustment. The sample investigated in this study was

comprised of 60% minority students, and the group of teachers was primarily (75%) Caucasian. Some educators suggest that disadvantage due to poverty could be attenuated for minority students if more teachers were drawn from their own communities and racial/ethnic backgrounds. The implication is that teacher-student relationships may be more positive when there is an ethnic match. Therefore, literature on teacher/student ethnic match and how ethnic match relates to child school outcomes are reviewed in the next section.

3.6. Ethnic Match between Teachers and Students

In the United States, teachers of minority ethnicity are underrepresented: an estimated 87% of teachers are Caucasian (Campbell, 2005). As the population of students in this country steadily becomes more racially and ethnically diverse, the discrepancy between teacher ethnicity and student ethnicity increases. Janice Hale-Benson (1986), a leading researcher and theorist on issues surrounding race and ethnicity in education, asserted that teacher-student ethnic mismatch is less than optimal for African-American students, who could benefit from exposure to positive role models of their own ethnic background. African-American students are at risk for poorer school outcomes than their Caucasian peers. They are more likely to be retained in grade and more likely to drop out of school (Hoffman, Llagas & Snyder, 2003). African-American school children score lower on reading and math achievement tests than Caucasians (U.S. Department of Education, 2000).

Some support for the argument that ethnic match can promote positive academic outcomes for students of minority ethnicity comes from studies of “culturally competent” non-minority teachers. These investigations indicate that when teachers demonstrate cultural competence, by showing an understanding and acceptance of students’ culture and incorporating culturally relevant material into the curriculum, minority students’ school performance and

identification with academic goals improve (O'Halloran, 1995; Shipp, 1979). It may be more difficult for minority students to motivate themselves to succeed in school when the lack of same-ethnicity teachers and school authority figures conveys the impression that schooling is not valuable to or valued by members of their ethnic group (Campbell, 2005).

While studies can be found documenting that Caucasian teachers more often criticize and even pathologize African-American boys and their behavior (Pigott & Cowen, 2000; Simpson & Erickson, 1983; Zimmerman, Khoury, Vega, Gil & Warheit, 1995), few indicate how this is or might be related to student outcomes in school. Evidence from some correlational studies regarding teacher-student ethnic match and student school success is summarized below.

A recent analysis of Tennessee's Student Teacher Achievement Ratio (STAR) data, gathered on over 11,000 students from 79 elementary schools, revealed that after assigning students randomly to kindergarten through third grade teachers, students whose race matched that of their teacher benefited academically (Dee, 2001). Specifically, elementary students assigned to same-race teachers gained an additional 3 to 4 percentile points on standardized tests of both reading and math, as compared to their peers. These results differed from an earlier study using data from a large, nationally representative sample of eighth grade through college students (The National Educational Longitudinal Study, NELS, 1988). Data from the older students indicated that there were no significant gains in achievement for students with same-ethnicity teachers. However, teachers themselves tended to rate high school and college students of the same gender and ethnicity as more competent than did other teachers (Ehrenberg, Goldhaber & Brewer, 1995). The discrepant results described here could be due to differences in the populations sampled. The STAR project sample was comprised of students in Tennessee, and the NELS sample was selected to be nationally representative.

A study of 80 urban 12- to 14-year-old students in New England is also informative. Students who reported having a gender and ethnic match with a teacher or role model were performing better academically 2 years after the initial measurement, and they identified more achievement-oriented goals for themselves than did those who had either no role model or a role model of a different race or gender (Zirkel, 2002). Unfortunately, far fewer African-American students reported having a “matched” role model than did Caucasian students, so ethnicity was confounded with ethnic match in this study. Another role model study examined self-reported influences on 175 African-American students’ decisions to attend college and their exposure to educators in high school (Daniels, 1984). The students reported experiencing significantly more influence from same-ethnicity (African-American) educators upon their college aspirations than from Caucasian educators.

Ethnicity, then, is one child characteristic related to school outcomes. There is also some support for the idea that ethnic match between teacher and student is linked to academic outcomes. Student ethnicity and teacher-child ethnic match may be related to the quality of the teacher-child relationship, yet another predictor of school adjustment. Therefore, though the main thrust of this investigation was to investigate boys’ higher activity levels and whether this led to more negative teacher-child interaction and poorer school adjustment, it was considered worthwhile to include teacher-child ethnic match as a possible predictor of more positive transactions between teacher and student.

3.7. Summary

The literature reviewed supports the associations in the causal model depicted on Page 10. The idea that boys are likely to be more active than girls, and that boys face more disciplinary actions in school have been established. Boys may also experience less positive

teacher-student relationships than girls, and those of minority ethnicity also appear to be at a similar disadvantage. The literature also supports the hypothesis that those who experience a less positive or highly conflicted teacher-child relationship subsequently have poorer school adjustment outcomes.

Much of the literature on differences in teacher-child relationships and school outcomes relies upon single-rater responses to questionnaires. In this investigation, direct observation of active behavior in the classroom and of differences in teacher responses to behavior contribute to illuminating whether boys' activity and behavior predisposes them to have more negative teacher-child relationships, which in turn predicts and may contribute to more negative school outcomes. The study methods improve upon the few similar studies that have been done by having trained observers code child behavior and teacher responses in the classroom, and by comparing these observations with teacher ratings of individual student behavior and their own experiences in relationships with the same students. In addition, qualitative case studies on the most active children offer extensive description of the school experience for children, and teachers' views on more active students. Supplemental measures of student performance and behavior (grades and disciplinary records) were also collected. These data will allow more specific consideration of teacher-male student dynamics in the first year of formal education, at least among a sample of students from urban, low-income families.

4. STATEMENT OF THE PROBLEM

It is important for educators and developmentalists to examine whether boys' behavior patterns and the possible differential treatment of boys in school could be related to the under-performance of many male students, and whether sex differences in child behavior elicit a less supportive early learning environment for boys. This study involved gathering data in four kindergarten classrooms of a small, urban school district serving primarily low-income, racially diverse families. More specifically, observations and questionnaires were used to determine whether *most* (or any) boys are behaviorally more active than girls in these kindergarten classes. If boys are more active on average, is the sex difference stable over the school year or does activity decrease in boys, relative to girls, as they are socialized to school? Do teachers correct male and/or African-American kindergarteners more often and disproportionately more often than other students for high activity in early elementary school? The focus of this investigation was not on purposely defiant or aggressive behavior in boys, but rather on activity levels in boys that may predispose them to spend more time off task, and to be disciplined by their teacher more frequently.

In addition to documenting activity level in kindergarten boys and girls, a small sample of highly active boys were studied in more detail over the school year, to determine whether behavior patterns, student-teacher interactions and relationship quality, and academic performance appear to be less positive for this subset of male students.

4.1. Objective and Research Questions

The objective of this investigation was to answer the following questions through observations and interviews performed in kindergarten classrooms:

1. Are boys more active than girls in kindergarten? Are any average differences modest or sizable, and can they be attributed to a small subset of boys with more extreme problems in self-regulation?
2. Is high-activity behavior stable over the school year or does activity decrease as children are socialized to school?
3. Do teachers more frequently correct active boys, or do they correct all students who are active in class about equally? Is teacher affect more negative toward active boys than toward other boys?
4. Do active boys whose teachers correct or discipline highly active students *less* than do their colleagues have better outcomes at the end of the school year, both behaviorally and academically, relative to boys whose teachers do disproportionately more correcting of active students?
5. Do teachers of highly active students rate their relationships with these students *negatively*?
6. Is teacher-student ethnic match related to the amount of correction and/or amount of negative affect teachers direct toward students?

5. METHODS

5.1. Participants

The sample for this study consists of 29 students from four full-time kindergarten classes at an elementary school in the Mid-Atlantic region. The children in this school district are primarily from low-income families, and the student population is approximately 40% Caucasian and 60% African-American. Some 80% of students receive free or reduced lunch in the elementary school.

The Uptown School District is currently hosting a collaborative intervention project researchers from the University of Pittsburgh. Four of the five kindergarten teachers in this district participate in the project and are willing to have observations carried out in their classrooms. Their students comprise the population of children from which the study sample was drawn. A recruitment letter was sent to parents of all 45 kindergarteners in each of the four classes, and the final sample for this investigation consisted of students whose parents gave consent to have their child observed in the classroom. All of the students in the sample were observed in their classroom from late October through December of the 2004-2005 school year.

5.2. Design

This is a short-term longitudinal study that relied primarily upon observation of child participants in the classroom, and interviews with the kindergarten teachers and the staff of a funded intervention project. Initial observations took place in the late fall and early winter of 2004, and follow-up observations were scheduled for the end of the school year (in April and May 2005). This allowed examination of patterns of change over the second half of the first year of formal schooling for these children. More intensive observation of the most active children in

the sample of kindergarteners and interviews with teachers and project staff were conducted during the last month of the school year. The study was designed to describe student/teacher dynamics in the first year of elementary school, with a focus on student activity level, possible gender differences in activity and amount of negative teacher feedback received by boys who exhibit higher activity, but not necessarily aggression or overt defiance of authority.

Each child's behavior was rated by an observer for three 15-minute periods in the fall/winter semester (baseline measure), and again for three 15-minute periods at the end of the school year (follow-up). Each observation of individual children was carried out on a different day. Additional intensive observations of the most active 25% of children in the sample were conducted, including three consecutive 15-minute observations, and one descriptive two-hour observation. Two senior intervention project staff who were in these classrooms throughout the school year were interviewed, as will the kindergarten teachers.

5.3. Procedures

Two observers established inter-rater reliability on measures of student behavior and discipline at an 89% concordance level; two samples were used for establishing reliability including a kindergarten class at Uptown Elementary and a multi-age classroom sample of children at a school for students with behavioral and socio-emotional problems. Parental consents were obtained for 29 of the 45 students in the kindergarten classes, by means of a recruitment letter that was distributed by teachers to each child's parents. Verbal assent was also requested from the children. Once consents were obtained, each child participant was assigned an identification code, and a list of the codes was generated using race and gender of the children to counter-balance the order in which observations were done. The rater observed a child for 15 minutes, coding each of the following behaviors at 30-second intervals: non-aggressive physical

rule transgressions, aggression, off-task behavior, verbal rule transgressions, correction by the teacher, and teacher affect (*if* a correction or disciplinary action was taken). A wristwatch alarm was used to mark the 30-second intervals. The rater then moved on to the next child in the predetermined order, until each participant in the four classes had been observed once. (It takes approximately one week for two raters to get through a round of observations of each participant during academically focused class time, due to lunch/recess breaks, student pull-out programs, and other unexpected interruptions.) The entire observation procedure was repeated two more times, using a different order of child codes each time during the baseline data collection period.

This same observation procedure was used again at follow-up, with the addition of comprehensive case study data that was collected through means of three additional consecutive 15-minute observations of the highly active children using the Activity Coding Form.

Based on the observation data collected at baseline, the researcher identified the *highest* 20% of the participants in observed activity. (The size of the sample subset for this additional data collection was one or two children who exhibited higher activity level in each classroom, for a total of six). Narrative data regarding these active students was collected using a two-hour intensive observation of each highly active student and his or her teacher. The recorder described everything that took place for the two-hour time period including the child's behavior, teacher interactions with the child, and any observable non-verbal communications between the child and teacher (for example, facial expressions or gestures, pats on the back, etc.).

Teachers also completed a set of questionnaires concerning the most active students, consisting of a measure of the student's problem behavior (including a brief assessment of student academic performance and motivation relative to the rest of the class) and a measure of

the teacher-student relationship. In addition, school records of disciplinary actions and grades were requested.

Each kindergarten teacher was interviewed by the investigator regarding their beliefs and attitudes about the highly active children in their class, and the interviews will be audio-taped for accuracy. Two researchers from Pitt's CARE project were also interviewed concerning their impressions of the highly active students in the classrooms, as well as their impressions of teacher characteristics such as levels of warmth, negativity and control in the classroom, and perceived quality of teacher interactions with students, particularly with highly active boys.

5.3.1. Study Payments

Two consenting parents from separate families won \$50 in a raffle, with the chances of winning one of the two cash prizes being approximately 1 in 15. This served as an incentive for participation, and was considered necessary because many of these same parents first agreed to participate in the larger collaborative intervention project, which already made some demands on their time.

Teachers filled out questionnaires on high activity boys in the spring term (May 2005). Because this required a substantial investment of time and care on each teacher's part, they were paid \$10 per form packet completed.

5.4. Measures

5.4.1. Demographics

Data on child race, sex, age and classroom were recorded.

5.4.2. School Records

Comparisons of grades and disciplinary actions or suspensions was made between the group of non-study children and the high-activity boys selected for the study. These records were obtained in aggregate form from the Uptown Elementary school guidance counselor.

5.4.3. Classroom Observations

Raters assessed each of the following events on the Activity Coding Form.

Physical Rule Transgression. This behavior is rated from 0 to 2, based on amount of physical activity unrelated to schoolwork: leaning on another student (1), tipping one's chair back on two legs (1), moving about the classroom during seatwork (2).

Verbal Rule Transgression. This behavior is rated from 0 to 2, based on the extent to which the student speaks out of turn or interrupts the teacher.

Off-Task Behavior. This behavior is rated yes (versus no) if the student disengages from an assigned task for more than 10 seconds.

Aggressive Behavior. This behavior is rated yes (versus no) if there is any sort of verbal or physical provocation of another: leaning against a peer after the peer has asked the child to stop.

Teacher Correction/Discipline. This behavior is rated from 0 to 2 based on absence (0) versus presence of correction or discipline, and forcefulness of correction: mild verbal reminders of classroom rules or expectations (1) versus a more severe rebuke or some disciplinary action taken (2). Typical disciplinary actions observed in these classrooms include timeout, removal of token(s) (such as stars that are accumulated to buy privileges), removal of a privilege (such as recess or snack), presentation of a negative token (generally three tokens in one day indicates either removal of an important privilege such as a field trip or class party, a note or call to the home, or being sent to the principal).

Teacher Affect. This behavior is rated from -2(quite negative) to 2(quite positive) with 0 representing neutral teacher affect when correcting a student.

5.4.4. Individual Student Profiles

Descriptive case study data was collected on the most active 20% of students in the sample using the following methods:

1) Additional brief observations. Three consecutive 15-minute observations of only the highly active children were conducted, using the Activity Coding Form described above to generate a richer picture of the most active children in the sample.

2) Intensive narrative observation. A two-hour observation of each highly active student and his or her teacher was performed. The recorder essentially described everything that took place for the two-hour time period of this observation, including the child's behavior, teacher interactions with and responses to the child, child interactions with peers or others, and any observable non-verbal communications between the child and teacher (for example, facial expressions, gestures, contact such as a pat on the back, etc.).

3) Teacher interviews. The researcher met with each of the four kindergarten teachers to talk about the highly active children in the class. Open-ended questions were used to probe for teacher attitudes and beliefs about the identified (i.e., highly active) children in their class. An example of a set of open-ended questions about an individual child is, "Tell me about Cedric in class today. What did you see? What else? What do you make of that? How do you feel about that? Do you think that has changed over this year?" These interviews were audiotaped and transcribed.

4) Consultant interviews. Two faculty researchers from Pitt's CARE project who spent considerable time (2 afternoons a week, in general) in the kindergartens at Uptown over the 2004-2005 school year were interviewed concerning their impressions of the highly active students in the classrooms, as well as teacher characteristics such as levels of warmth, negativity

and control in the classroom, and teacher interactions with students, particularly with active boys.

5.4.5. Teacher-Rated Behavior and Relationships

Specific items from the *Child Behavior Checklist (CBCL Teacher Report Form)* assessed teacher impressions of student behavior and motivation, relative to other students of the same age, at the end of the school year. The items were completed only for the selected high-activity boys. The *CBCL* is a well-standardized measure of child behavior problems that has been shown to demonstrate high test-retest reliability, and cross-cultural stability (Achenbach, 1991; Achenbach & Edelbrock, 1983).

The *Student-Teacher Relationship Scale (STRS; Pianta, 2001)* was used to measure the teacher's impressions of her relationship with selected high-activity boys in the class. The *STRS* was developed from an attachment perspective of relationships, assessing both closeness/security and different patterns of insecurity: conflict and dependency (Pianta, 1992). The *STRS* contains 30 items, such as "This child and I always seem to be struggling with each other," rated on a 5-point Likert scale. The *STRS* has been widely used by developmentalists and multiple studies providing validity data for the measure are available (see Pianta 1994; Pianta & Nimetz, 1991).

5.5. Data Analysis and Statistical Considerations

Given the modest sample size, the analytic emphasis is on descriptive information more than on inferential statistics. Percentages, means, standard deviations, ranges and chi-square analyses are used, in part, to answer the research questions which ask about sex differences and subgroup differences for boys. These are complemented by the qualitative case profile data, which was used to capture and make sense of the diversity and dynamics within the sample that shape the constructs and processes of interest. Common themes and idiosyncratic dynamics

across the case profile data are presented and discussed as they bear on the conceptual issues of the study: Is there an identifiable group of children/boys who are high on activity but low on aggression and overt defiance? Are these boys/children disproportionately disciplined by their teacher? Does their adjustment to school appear to suffer relative to other children? Does it appear to relate to teacher discipline?

Results are interpreted as suggestive only, and quite limited in generalizability. Nevertheless, they offer the opportunity to examine the question of whether boys' activity levels and teacher responses to their activity may help explain poorer academic performance of kindergarten boys from low-income families.

6. RESULTS

Results are organized into two major sections, quantitative analyses and qualitative case studies. Each begins with descriptive information. In the quantitative section, sex differences in activity level will be tested first, followed by comparisons between high-activity children of either gender and the rest of the sample. The final analysis examines teacher-student ethnic match in relation to discipline patterns. In the qualitative section, synthesis of the observational data on child behavior and teacher responses, and the interview data from teachers and consultants is presented. Finally, the overall results in both the quantitative and qualitative pieces will be integrated to address the original research questions.

6.1. Quantitative Analyses

The final study sample included 28 participants, due to the loss of one student in the study who moved to another school district mid-year. The 28 children were 43% male (n=12) and 57% female (n=16). Fifteen children were African-American (54%), 12 were Caucasian (43%), and 1 child was of unidentified race/ethnicity. Six children from 3 classrooms were identified as demonstrating high activity. Compared to the rest of the sample, these children grouped together at the high end of the activity scale. A cutoff score of 15 was selected on the basis of the shape of the frequency distribution. Figure 2 presents the frequency distribution of activity scores. (Individual activity scores are calculated by dividing the number of active behaviors for a particular child coded in each 15-minute observation period by the number of observations of that child). Four African-American boys, 1 Caucasian boy, and one African-American girl comprise the high activity group. High activity children in the sample did *not* differ from their peers in acts of verbal or physical aggression; in fact these behaviors almost

never occurred during the observations. Since several of the original research questions addressed by this study concern only high activity boys, analyses were conducted both including and excluding the single high activity female in the sample.

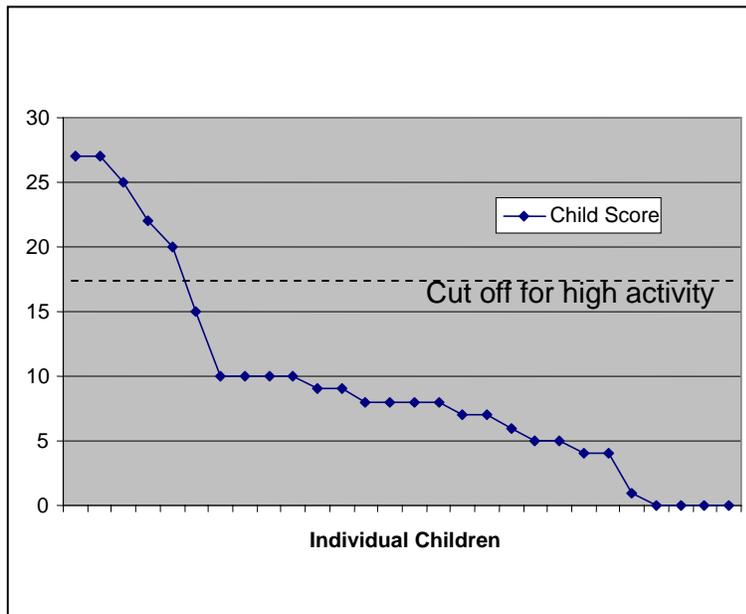


Figure 2. Baseline Activity Scores

6.2. Comparisons by Gender

It was hypothesized that gender differences would be detected in child activity level, amount of correction or discipline received, and teacher affect toward students. Baseline activity scores collected in November 2004 indicate that the boys in this sample ($M_{\text{boys}} = 4.75$) were more active than the girls ($M_{\text{girls}} = 2.03$), $t(26) = 3.1, p < .01$. Cohen's d statistic indicated that this is a large effect size ($d = 1.2$; large effect $\geq .8$). When scores for the six highest activity children were removed, the sex difference in mean activity score at baseline was still significant ($M_{\text{girls}} = 1.7, M_{\text{boys}} = 2.7, t(20) = 2.0, p < .05$). Baseline and follow-up activity scores were averaged together, and boys were again significantly more active than girls ($M_{\text{girls}} = 3.6, M_{\text{boys}} = 6.4, t(53)$

= 3.62, $p < .001$). High activity children were removed and the test for a gender difference in combined baseline and follow-up activity scores was calculated. Results indicate that when the highest activity children are removed, the gender difference in activity over the entire school year falls to a trend ($M_{\text{girls}} = 3.3$, $M_{\text{boys}} = 4.5$, $t(41) = 1.67$, $p = .06$).

There was a significant sex difference in the number of times children were corrected. Boys ($M_{\text{boys}} = 1.2$) received significantly more teacher correction than did girls ($M_{\text{girls}} = .5$), $t(53) = 2.36$, $p < .05$. This result is not unexpected, since boys tended to be more active than girls. However, even with the highest activity children removed from the analysis, teachers still corrected boys ($M_{\text{boys}} = .64$) significantly more often than they did girls ($M_{\text{girls}} = .26$), $t(41) = 2.73$, $p < .05$).

No difference was found in teacher affect expressed toward boys versus girls ($M_{\text{boys}} = 1.15$, $M_{\text{girls}} = 1.07$, $t(41) = .23$, $p = .44$). The null hypothesis was rejected regarding sex differences in activity and teacher correction, but not the null hypothesis regarding teacher affect. Boys were observed being corrected more often, but not with more negative affect on the part of teachers.

6.3. Comparisons by Activity Level

It was hypothesized that highly active children would be corrected more often than their less active peers. The six children identified as highly active at baseline received significantly more correction from teachers than did the remainder of the sample, ($M_{\text{high-active}} = 1.2$, $M_{\text{low-active}} = 1.0$, $t(21) = 3.4$, $p < .01$). This result did not change after excluding the one female high-activity child. On average, however, more correction for high-activity children did not translate into significantly more negative teacher affect toward high-activity children. A post-hoc analysis was added to try to determine whether teachers tended to use more severe *types* of discipline

with the high activity students than with other students. In other words, teacher affect might remain positive or neutral even though the teacher imposed a more severe punishment for a high-activity child. Types of punishment were categorized during observations as either 0 (none), 1 (slight) or 2 (harsh) on the Activity Coding Form. If a teacher didn't see or didn't react to an active behavior, a 0 was assigned; if a slight response such as a verbal correction or redirection was given, this was assigned a 1; and if a more reactive or severe teacher response occurred, such as yelling, or giving a timeout or a demerit, a 2 was coded. The chi-square analysis revealed that teachers tended to use more severe types of discipline with the high activity students than with other students, $\chi^2 = 13.72, p < .01$. Therefore, the hypothesis that teacher affect would be more negative toward high activity students was rejected, but the post-hoc comparison did reveal that more severe types of punishment were chosen for the high activity children.

It was hypothesized that children would become less active in class as they were socialized to school and adapted to classroom expectations. In fact, the sample as a whole was *more* active from baseline (early winter) to follow-up (late spring) observation periods, $M_{\text{baseline}} = 3.1$ versus $M_{\text{followup}} = 6.5, t(26) = -8.9, p < .001$. This was true for both higher and lower activity children. Therefore the hypothesis that activity would decrease over time was refuted. Surprisingly, this increase in child activity across the sample did not translate into significantly more frequent teacher corrections: mean teacher corrections at baseline ($M_{\text{baseline}} = 1.03$ per 15-minute observation, $SD = .07$) were essentially the same as those observed at follow-up ($M_{\text{followup}} = 1.12$ per 15-minute observation, $SD = .28$). This was true when the high activity and lower activity groups were examined separately, as well as for the sample as a whole.

6.4. Teacher-Student Ethnicity

It was hypothesized that teacher-student ethnic match might be related to the amount of correction received by students, and to teacher affect. Due to the small number of children in each race category with teachers of the same or different race, only descriptive data will be presented. Table 1 separates children by race and by teacher race to give a mean teacher affect score by group. Teacher affect ranges from 0 (quite negative) to 3 (quite positive).

Table 1. Teacher Affect by Teacher - Student Ethnic Match

Student Race	African-American Teacher		Caucasian Teachers (n=3)	
	<i>N</i>	Mean Teacher Affect	<i>N</i>	Mean Teacher Affect
African-American	7	2.1	8	2.3
Caucasian	2	2.0	10	1.8
Other	0	N/A	1	2.3
Total	9		19	

There was little difference in teacher affect across teacher race, and means for African-American students were only slightly higher than means for Caucasian students.

It can be seen in Table 2 that teacher corrections differed only slightly across the varying combinations of student and teacher race. Scores are the observed number of teacher corrections in a given 15-minute observation with one child averaged over all of the observation periods and over all of the children. The low means reflect the large number of children who were infrequently or never corrected (33% of the 15-minute observation periods contained zero corrections). There is some suggestion that teachers corrected children of their own race slightly less often than children of another race. To test for such an interaction effect both more teachers and more children of each race would be needed.

Table 2. Mean Number of Corrections by Teacher – Student Ethnic Match

Student Race	African-American Teacher		Caucasian Teachers (n=3)	
	<i>N</i>	Mean Corrections	<i>N</i>	Mean Corrections
African-American	7	.43	8	1.6
Caucasian	1	.75	10	.45
Other	0	N/A	1	.83
Total	8	.50	19	.95

The average number of times a teacher corrected or disciplined students differed across teachers. Means appear in Table 3. Ms. G, who did more correcting than the other three teachers, had four of the six high activity children in her class. Mrs. W, who did the least amount of correcting, was the only African-American teacher. Mrs. O had no high activity students; therefore her class is not described in the qualitative case studies of each high activity student.

Table 3. Mean Number of Corrections by Teacher

	Ms. G	Mrs. O	Mrs. W	Mrs. D
Average Corrections per Observation	1.54	.52	.50	.73
Number of Observations	28	28	36	30

6.5. Student-Teacher Relationship Quality

It was hypothesized that teacher-reported relationship quality with the highly active boys would tend to be negative (i.e., high in conflict and low in closeness). Figure 3 presents the results from the *Student-Teacher Relationship Scale*, which were available for four of the five highly active boys. One of the boys, George, enjoyed a particularly positive relationship as reported by his kindergarten teacher, Ms. G. The scores indicate a high level of closeness in the

relationship, low conflict, and a total score at the 99th percentile as compared to a large normative sample of boys (Pianta, 2001). Ty, also in Ms. G’s class, did not fare nearly as well, with a high reported level of conflict, low closeness, and a total score at the 2nd percentile. Peyton, (Ms. G’s class) had a similar teacher-reported pattern: higher conflict, low closeness, and a total score at the 40th percentile. Manny, (Mrs. D’s class), had a relatively high reported level of conflict, but also high closeness, resulting in a total score at the 54th percentile.

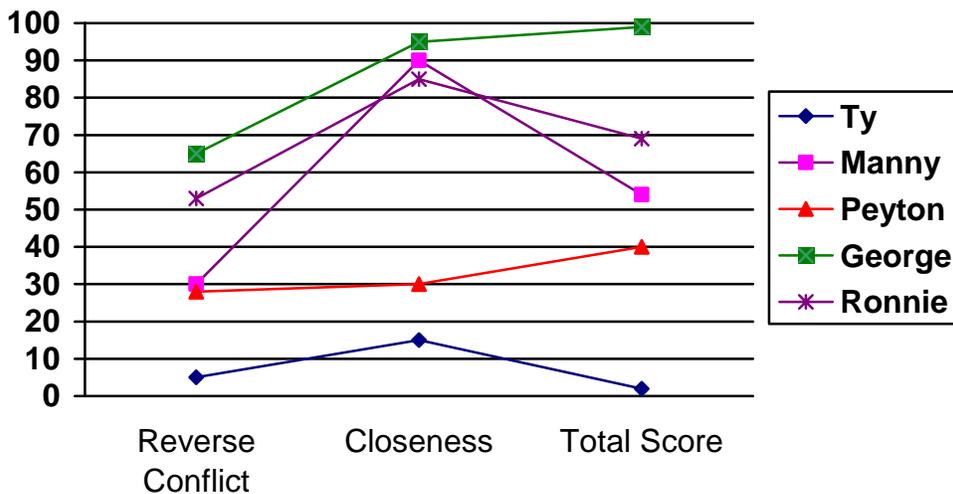
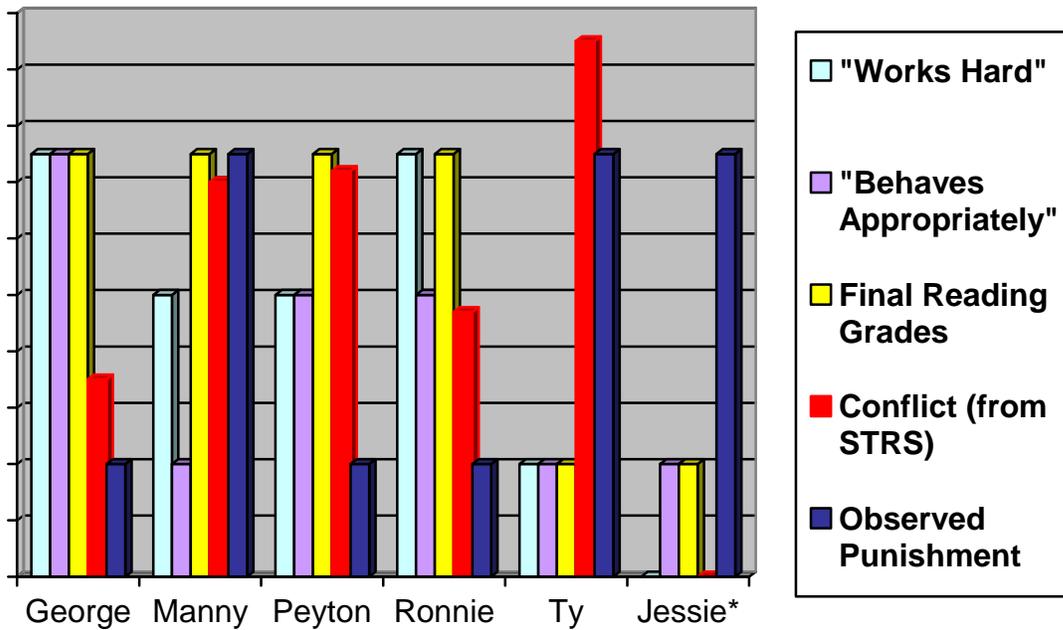


Figure 3. STRS Percentile Scores for Highly Active Boys

Two of the five high activity children had teachers who reported relationships that followed the expected pattern: greater levels of conflict, low closeness and an overall score indicating a negative relationship. In contrast, three teachers reported a different pattern. One relationship was rated as very positive (99th percentile), one was fairly positive, and another was mixed, that is, higher on both conflict and closeness. Therefore, few of the teacher-child relationships fit the hypothesized pattern, as reported by teachers.

6.6. School Adjustment Outcomes

It was hypothesized that highly active children who received *less* discipline or correction from teachers would have better school adjustment outcomes, as measured by final reading grades and teacher ratings of behavior and motivation. It may be helpful to view multiple outcomes for the sample of highly active children together, as depicted in Figure 4. The graph gives the average amount of punishment observed in the classroom for each child, teacher-rated conflict scores, and behavior and motivation (rated by teachers in relation to other children of the same age). Final reading grades are also included.



* Data were incomplete for this participant, and one variable (appropriate behavior) was extrapolated from report cards as opposed to teacher ratings.

Figure 4. Punishment, Conflict and Outcomes for Highly Active Children

It can be seen that higher frequencies of punishment tended to be linked with lower grades and motivation ratings, and lower correction was associated with higher grades and motivation. The only student for whom this did not appear to be true was Manny, who had a high frequency of punishment and still had a higher motivation rating and academic outcome. High conflict scores (meaning high teacher-reported conflict on the *STRS*) did not predict poorer school adjustment outcomes in general, although one child (Ty) had the highest reported conflict and the lowest academic outcomes. (It should be noted that Jessie had high *observed* teacher-child conflict, and lower school adjustment outcomes.) Therefore, some support was found for the hypothesis that a high level of observed correction was associated with poorer student outcomes at the end of the school year.

6.7. Qualitative Case Studies

The following case descriptions are based on the qualitative data collected at Uptown Elementary School. They were created by synthesizing classroom observations of teacher-child interactions with interview data collected from the classroom teachers and CARE Project consultants. Both teacher and consultant interviews were audio-taped and transcribed (see Appendix A for the complete set of qualitative observations and interviews). Recurring themes were identified and coded to provide a basis for summarizing the data. Student grades, behavior reports and attendance records were also used where available to complete the picture of each of the highly active students in the sample. (Kindergarten grades tend to be high, so grades below 90 are lower than average.) Observer reactions and interpretations are presented in brackets, and the child names used are pseudonyms.

Jessie in Kindergarten

Child Description

Jessie is an attractive, bright little African-American girl who is usually neatly dressed for school, with her hair braided and beaded. She is talkative and outgoing. She is in Ms. G's kindergarten class; Ms. G is relatively new to teaching and is Caucasian. Jessie was able to get very good grades over the kindergarten year, except for one reading score in the third quarter (an 85%) with an annotation from the teacher indicating that she was below grade level in reading. Jessie's attendance in the first half of the year was unremarkable, but she arrived late to school 15 times over the second semester, and missed 9.5 school days in the second half of the year.

Based upon observations in the classroom, Jessie appeared to be an active child, exhibiting many of the same behaviors seen among the most active boys in the sample. For example, she was often observed out of her seat, talking during seatwork, and taking too much time to transition between activities. Jessie is highly social, and appeared quite self-possessed for a five-year-old. She was frequently observed interacting with and occasionally offering to help other students. She seemed to try hard most of the time to succeed at academic tasks. Jessie's adult female cousin was a teacher's aide in her classroom. [Perhaps this provided her with the comfort of familiarity during school].

Teacher-Student Interaction

Unfortunately, data on the teacher-child relationship is not available for Jessie, because consent was not obtained for this piece of the study. The interactions observed between Jessie and Ms. G were primarily positive or neutral. However, Ms. G did correct Jessie more often than she did some of the other students for similar behaviors. She also seemed at times to look for reasons to correct Jessie. For example, on a day when Jessie's seatmate was crying (and distracting Ms. G from teaching), she decided to help the boy with his worksheet. The boy (Ty) was then able to settle down and stop crying as Jessie showed him what to do. However, instead of praising Jessie's pro-social behavior, Ms. G interrupted her to tell her that it was okay to help, but to let Ty do his own work. [In contrast, one of Ms. G's favored students, George, was able to get away with some willful misbehavior during observations, without being disciplined or redirected].

Another missed opportunity for Ms. G to give positive feedback occurred when Jessie performed well on an oral test of language comprehension. Ms. G was observed to tell others

they did well, and to use the term ‘honey’ with some of the children, but she was “strictly business” when testing Jessie, and simply told her to return to her seat after she completed the test.

Quotes from Ms. G about Jessie provide evidence that she saw her not as an active but otherwise innocent child, but as a purposefully defiant child:

“Sometimes it’s a lot of oppositional behavior: ‘I’m going to do this because you want me to do something else’.”

“...She’ll give a look - and it’s a look that says ‘I’m not doing it because you asked me to.’ She openly laughs in my face sometimes when I correct her.”

One of the consultants believed that Ms. G’s inability to just ‘let go’ of some of Jessie’s typical, harmless kindergarten behaviors contributed to more negative interactions between Ms. G and Jessie. During one observation period, Jessie persisted at her computer lesson and was able to finish it, despite distractions from other students and her own tendency to move about and get out of her seat. Two different children were observed standing around near the computers and interrupting Jessie on this particular day, but they were not corrected, nor was Jessie praised for her competence. However, based on the observations and CARE staff interviews, this is a relationship that appears to be high in conflict. (In fact, out of 28 kindergarteners observed, Jessie was corrected far more frequently than any other student in the sample. The mean number of corrections per 15-minute observation in the entire sample = .70, mean corrections per observation for Jessie = 4.0).

Behavior and Punishment

Jessie was rated by her teacher as behaving less appropriately compared to the other children in her class. Ms. G tried to explain Jessie’s behavior in reference to her family environment. Ms. G attributed fluctuations in mood and behavior in the classroom to events at home:

“I don’t know what it’s coming from. I think that there is a link between that [behavior] and her home life – they have moved a couple of times, a dad who is in and out saying he’s coming back, not coming back. I don’t know if it’s the relationship between the parents though.”

[Although she quite matter-of-factly spoke about Jessie’s family situation, as well as about other students’ backgrounds in the interviews, Ms. G’s voice did not seem to convey any empathy with these children whose home lives are, in her opinion, unstable].

Both of the consultant interviews revealed that it appeared as if Ms. G was particularly negative toward Jessie, relative to the other children in her class. In fact, this teacher-child dyad may have brought out the worst in both teacher and student:

*“One time she [Jessie] was coloring very enthusiastically, and she went off the paper and onto the table with the crayons. And Ms. G singled her out and really embarrassed her, yelled at her, and said, “You clean that up this minute!” and brought her a wet cloth, and the poor girl was just taken aback by Ms. G’s anger. As anyone would have been. It seemed very inappropriate to the offense. It seems like Ms. G just **elicited** defiant behavior from her..... it seemed like she really had it in for her.*

This viewpoint supports one of the main hypotheses of this study: that an active child may receive more punishment or be on the receiving end of more negative teacher reactions.

Child Outcome and Conclusions

It appears that Jessie and Ms. G were ill-suited to get along on a personal level. Multiple interview excerpts support the idea that a poor teacher-child fit existed between the two and, for some reason, Jessie “rubbed Ms. G the wrong way.” Dr. Cohen observed that a poor fit can result in escalation of negative emotions between teacher and student:

“It was a coercive relationship that fed on itself, because Jessie would do something, then Ms. G would punish her, then Jessie would react, then Ms. G would become even angrier, and so on.”

Ms. G did have some positive things to say about Jessie, but she qualified her positive statements by reiterating that she felt that Jessie has behavior problems.

“The first day of school I thought she was as cute as a button, and I still think she’s very cute. I think she’s really intelligent, I do think she’s on the ball.....She wants to help and she wants to please but when things aren’t her way that’s when it really just goes out the window.”

Ms. G stated that she believed that Jessie’s behavior became *worse* as the school year progressed. Indeed, Jessie’s report card shows that Ms. G rated Jessie as being less than satisfactory in categories such as “Respects Others”, “Follows Rules” and “Is Cooperative.” Jessie’s grades were the one positive outcome identified, although she was below grade level in reading. Jessie was even rated as needing improvement in art class, for not listening or following directions. [After synthesizing the observational and interview data, it seems that this teacher-child relationship was a particularly coercive one, both from data collected and according to the

outside observers. It seems unlikely that Jessie had a positive school experience during her year in Ms. G's kindergarten classroom].

Manny in Kindergarten

Child Description

Manny is a very active, social child in Mrs. D's kindergarten class. He is a small, slender African-American boy with short hair and a ready smile. (Mrs. D is a Caucasian teacher who has been at Uptown for seven years.) Manny talked a great deal to his peers in school over the kindergarten year, and he also frequently interacted with the adults visiting the classroom. His teacher described him as always wanting to be "in the mix."

Of all the active children observed in this sample, Manny perhaps best exemplified the traits of a "highly active child" as defined for this study. He was often out of his seat and wandering around the classroom, he fidgeted a great deal when asked to sit still, he called out answers in class, and made occasional physical contact with other children. He seemed able to stay on task when something engaging captured his attention, or when a classroom helper worked with him to keep him focused. He was not aggressive toward his peers, and his activity usually only disrupted class insofar as the teacher, Mrs. D, took time away from class to publicly correct Manny. Manny's final grades were mostly in the 90's, with one lower score in mathematics (81%).

Teacher-Student Interaction

On the *STRS*, Mrs. D rated her relationship with Manny as being high on conflict, and high on closeness, with an overall relationship score at the 52nd percentile. There appear to be two sides to the story of Manny's behavior and his teacher's responses. From Mrs. D's perspective, Manny was an active but intelligent child who had "poor self-management", but not an attention problem. She described him as "immature for his age", and "a baby." She used rewards and punishments to try to modify his behavior, and her affect toward him was often positive or at least neutral. However, from the CARE staff standpoint, Manny was an active child who received poor treatment from his teacher and spent a great deal of his time being singled out and punished.

Observations tended to lend some support to each of these viewpoints. In Mrs. D's class, Manny was observed to spend a lot of time off task, and he was corrected or redirected quite frequently relative to the other students. However, Mrs. D's word choice and tone of voice were often positive when she corrected him:

"Manny, what are you doing honey?"

"Bring it here, honey."

"Manny, sit right here by me"

"Manny, that's going to be a check. You only have one check left, so you'd better get back there and finish."

Mrs. D was also observed using less intrusive methods of behavior modification with Manny as well. For example, she would have him sit next to her during small-group instruction, and when his attention wandered she would try to re-engage him by addressing some of her questions to him. She also had Manny and several of the other boys in her class grouped at one table. When she gave whole-class instruction, Mrs. D would often stand directly over them while she spoke. Manny seemed to respond well to these types of prompts, because when Mrs. D was near or was helping him, he was often observed to remain on task.

However, the CARE staff saw a different kind of relationship between Mrs. D and Manny, one characterized by conflict and a poor match between child temperament and teacher expectations:

"...he [Manny] is very active and has trouble controlling his impulses, and that's hard for her to deal with, because she's just inflexible. And her classroom reflects that: it is so highly structured. This was probably just a poor fit, and really not ideal for Manny."

"I saw him get dragged down to the Principal's office several times. And on this particular occasion I was there in the office, and she said, "He bit someone, did you see it?" And I hadn't seen it, but obviously she wasn't sure if he really had bitten somebody. But he was sent home for it anyway, based on what another kindergartener said. I think she just didn't like him."

[Several similar incidents such as this one, where Mrs. D attempted to get others to agree that Manny was a "bad" child, were observed or reported by other CARE staff]. In addition, Manny was one of Mrs. D's CARE Project students, but she did not contact his parents even though she *did* call the other CARE parents regularly. When interviewed, Mrs. D talked about how she wanted to help Manny manage his activity, and she referred to him as "gifted" and "my poor little sweetie." However, in Mrs. D's class there was no observable help built in for Manny

to enable a more active boy to succeed. [Even a little bit of extra leeway or tolerance from Mrs. D for Manny's activity level might have significantly reduced the number of times that he was publicly corrected, redirected, or placed in timeout].

Behavior and Punishment

Manny was rated by Mrs. D as behaving slightly less appropriately compared to other children his age. Manny and another boy had the highest frequency of activity and physical transgressions (e.g., being out of seat, rolling on the floor, walking around the classroom) of all the children in the study sample. He was observed being corrected or redirected regularly for his active behavior and for being off-task.

Manny jumps up out of his seat and walks quickly back to the center of the classroom. Mrs. D looks up, and says gently 'Manny, what are you doing honey? Finish on the computer.' He walks toward the computers but is back in the main class area again almost immediately. Mrs. D corrects him more firmly, 'Manny, that's going to be a check [demerit]. You have one check left, so you'd better get back there and finish.' Manny goes back to the computer, but doesn't sit down, then comes back out and wanders around. Mrs. D notices after about 30 seconds. 'Manny, what are you doing honey?'...

[The amount of redirection and discipline directed toward Manny was felt to be unnecessary by CARE staff, as we were able to manage Manny's activity in one-on-one situations].

"I really saw him as a malleable student – he would work hard and stay on task for rewards with me. I think he had the tools to do quite well in school, with the right teacher."

Dr. Cohen also pointed out that the type of punishment selected by Mrs. D for Manny was probably the least appropriate she could have chosen, given his age and level of activity. She felt that long (25- to 30-minute) timeouts, in which Manny had to remain seated and watch, but not participate, in the classroom activities "set him up to fail" because he was unable to remain seated. [This is an example of a developmentally inappropriate length of punishment for a five-year-old, and as a teacher strategy, this is highly inconsistent with the goal of helping the child to remain on task in class].

Outcome and Conclusions

Manny had a successful academic year in kindergarten as defined by his grades and reading abilities at year's end. However, behaviorally, Mrs. D made his difficulties apparent to

everyone, including the school principal, Manny's parents, and his peers. Manny's report card was not made available, but according to a behavioral chart displayed on Mrs. D's wall, Manny averaged about one demerit per day in the months of April and May. (There was one other child who had about the same number, and there were many children who had either few or no demerits posted).

[This year was unlikely to have been a positive first school experience for Manny, who probably would have done better with a more flexible, tolerant teacher. The CARE staff thought that Mrs. D likely treated Manny worse when no one was there to observe].

"I always thought she was very conscious of us, of our presence in her classroom, and what we were looking for while we were there. She probably treated Manny differently when we weren't there. And even when we were there, the way she treated him was certainly not ideal, she really set him up to fail quite often."

It appears that in Manny's case, a poor teacher-child fit may again have been an important factor in the quality of kindergarten experiences for an active child.

Peyton in Kindergarten

Child Description

Peyton is a soft-spoken African-American boy in Mrs. G's class who is slightly smaller in stature than most of his kindergarten peers. He generally wore a clean, neat combination of school clothes. He was a strong academic performer over the school year, receiving grades in the mid-nineties for reading, math and language arts across both semesters, despite having missed 15 school days this year (11 of these were in the second half of the year).

Upon observing Peyton in the classroom, one could clearly see that he was an active boy. He rarely remained seated in his chair; he preferred to stand next to his seat or kneel in it, and lean over onto the table to do his work. Despite his higher activity, Peyton was not defiant or oppositional in class, and Ms. G stated that he was not a behavior problem.

Teacher-Child Interactions

On the *STRS*, Mrs. G rated her relationship with Peyton as being high on conflict, low on closeness, with an overall relationship score at the 40th percentile. From observations, Ms. G appeared to have a fairly neutral relationship with Peyton. She did not describe him as having

problems in school, but she also did not really praise him or emphasize his competence in the interview; instead she seemed rather indifferent toward him. This seemed consistent with observations, for example, Ms. G once yawned in Peyton's face four different times over a 10-minute period while testing him one morning. In the teacher interview, she spoke more about how she should manage his few minor off-task behaviors than about his positive qualities, such as his academic focus and apparent intelligence.

"With Peyton I'm really not sure. I know that he's on the ball, I know that he gets his work finished. I know that he usually conforms and follows the rules. I'm not really sure what's going on there. I noticed at different times, like circle time or reading, he'll be on task and then he'll try to do something sly on the side like talk to his friends or grab a pencil out of someone's hand, things like that....."

(Prompt) Do you think it's a behavior problem or just typical kindergarten behavior?

"I think a lot of it is typical kindergarten behaviors."

Despite her belief that Peyton's behavior was within the normal range for a kindergartener, Ms. G did not enjoy a strong positive relationship with him. [However, there were only two children in her entire class for whom this seemed to be true. Ms. G's reiteration of the phrase, "I'm not really sure... [about Peyton]" suggests that she felt there was something wrong with him, some deficit that she couldn't quite identify]. In contrast to Ms. G's opinion of Peyton, CARE Project consultants found him to be bright, willing, and pleasant to work with.

Behavior and Punishment

Ms. G stated that Peyton was "about average" on appropriate behavior as compared to other children his age. Based upon observations and teacher report, it is evident that Peyton rarely called out or disrupted class, but he did occasionally receive correction for talking. One incident illustrated a questionable level of teacher involvement in children's peer interactions, when Peyton's seatmate accused Peyton of calling him a name during seatwork:

...Peyton denies that he did anything wrong, and refuses to say "sorry." Ms. G says "Peyton, you have to say sorry or you'll get a timeout." He refuses, shakes his head no, and says he didn't do anything wrong. "Okay, you just bought yourself a 5-minute timeout. Go over in the corner." Peyton goes over to the corner, and begins to cry. He stands facing the room, and looks at the floor. A few minutes later, Peyton is still crying, arms folded, standing partially hidden behind an easel in the corner.

Observed teacher corrections of Peyton and her other students suggest that Ms. G is perhaps too involved in peer interactions and over-manages normal kindergarten behavior. [She doesn't seem to allow many normal harmless, non-disruptive student behaviors and interactions

to occur in the classroom without frequently correcting the children, although inconsistency and mixed messages characterize Ms. G's discipline style]. An example of this was given by Dr. Cohen, who visited Ms. G's kindergarten on a day when a story about children expressing various emotions was read aloud to the class. Ms. G discussed the story at length with her students, and assured the children that it was "okay to cry in school if you're sad or upset." Later the same week, Dr. Cohen was again in Ms. G's classroom when one child began to cry, and Ms. G reprimanded the girl harshly, warning her not to be "a big baby" in school.

The students in Ms. G's class were probably rather used to being frequently corrected and redirected by the end of the year when follow-up observations took place. The following example shows Peyton's response to correction of another student in the class:

Many of the children line up eagerly, and Peyton, whose desk is close to the entrance, is first in line. The teacher's aide corrects another boy sharply for running to get in line, and Peyton apparently believes that he has been yelled at too (although he has not). He looks deflated, and slowly goes to the back of the line, but the aide doesn't notice.

This example could be interpreted as indicating a greater sensitivity to correction on Peyton's part. Alternatively, he may have been so accustomed to being disciplined that he just assumed he was doing something wrong. It is also possible that Peyton simply misunderstood the aide's intentions.

Outcome and Conclusions

According to observations and interview data, Peyton's kindergarten experience was characterized by a less-than-positive relationship with his teacher and fairly frequent corrections, but not the more severe disciplinary events that some of the other active children were subjected to. His report card reflects this; he received satisfactory ratings for his behavior in each quarter. However, he was on the receiving end of some non-verbal negative responses from Ms. G. For example, Dr. Cohen reported instances of observed evidence of Ms. G's attitude toward Peyton:

"He was pleasant, compliant all of the times that I saw him. He was on the ball, but he wanted to talk in class more than Ms. G would have liked. ... But again, Ms. G would roll her eyes at him; make faces behind his back, like she did with many of her students."

[Ms. G's expression of negative affect demonstrates what may be a disturbing pattern of behavior toward an impressionable five-year-old who happens to be more active, but not disruptive, than other children. The qualitative data seem to suggest a missed opportunity for a

teacher to positively influence a kindergartener who appears to have the skills to succeed academically, but who perhaps needs more incentive to grow in achievement motivation].

Ronnie in Kindergarten

Child Description

Ronnie is a slender boy with a friendly, outgoing personality and a generally positive attitude. He is African-American, as is his teacher, Mrs. W. (Mrs. W lives in the area, is involved in the community, and has been teaching at the school for many years.) Ronnie did well academically in kindergarten, as his grades increased steadily over the school year. He began with an 83 in math and a 95 in reading, and these scores were 100 and 99, respectively, by the last quarter. He had few absences (5) and was only late to school once over the entire year.

Ronnie was frequently out of his seat and moving around in class during observations. He also appeared to need to move about and fidget quite a bit, even when he was on task. Nevertheless, the following excerpt from classroom observations of Ronnie shows that he was able to pay attention when the lesson was interesting:

Ronnie's attention is soon drawn in by the story again, which is very engaging. He fidgets frequently with his hands and sleeves, playing with his cuffs and buttons, but he also appears to listen intently.

[Fortunately for Ronnie, Mrs. W seemed to be quite tolerant of his active behavior. She was supportive of the students in her class overall, and demonstrated warmth in her interactions with the children].

Teacher-Child Interactions

Ronnie may well have been the most active boy in Mrs. W's classroom (he was one of the two most active children in this sample), but it seemed as if he enjoyed a mostly positive relationship with his teacher despite his behavior. Mrs. W rated her relationship with Ronnie as being lower on conflict, high on closeness, with an overall relationship score at the 69th percentile. Dr. Cohen theorized that this could have had something to do with Mrs. W's apparent tolerance of normal kindergarten behavior.

"Mrs. W was very accepting of all of the children. She didn't try to over-control them. Her attitude was, 'We're all in this together'. She is a mother of two boys herself, you know, and that might have something to do with how accepting she is of more active children. She was just more tolerant of all that five-year-old energy."

[A particularly nice example of an interaction between Ronnie and his teacher occurred when Dr. Vondra was videotaping different children for the CARE Project].

“...I’d say ‘Why don’t you go over and stand by your teacher?’ and I’d ask them little questions and I think it was Ronnie who, when he went over, he hugged her. And then the other boys just did it also, except there were boys who did not hug her. ... I think Ronnie was one of the kids who spontaneously hugged her. And she loved that, oh boy, she ate that up.”

Evidence from the interviews and the classroom observations pointed to Mrs. W’s knowledge of kindergarten children and their basic needs. She took time out from the busy academic schedule to build in rest periods and other developmentally appropriate breaks throughout each day. [This recognition of the need for respites from focused, task-oriented activity can only have helped a child like Ronnie, who occasionally lost his focus when lessons were less engaging, such as during self-directed seatwork].

Behavior and Punishment

Ms. W stated that Ronnie was “about average” on appropriate behavior as compared to other children his age. Observations of Ronnie in class reveal that he is a child who could work and persist when he wanted to, but at other times he seemed to have trouble settling down.

While the teacher is passing out papers, Ronnie leans far forward onto his table for a moment. He then begins moving about rapidly in his chair, rolling his head around, then shaking it back and forth quickly. He is bouncing in his seat and shaking his shoulders in a kind of dance. The teacher gives a general direction to the class, “All right guys, we’re back to work.” Ronnie sits still for a moment, then begins wriggling around again, leans on his seatmate for a moment, is ignored. He then begins to poke at his seatmate’s arm with a finger, grinning. The boy ignores the poking, but moves away a bit in his seat. Ronnie begins to play with the crayon box on the table, and shows no sign of getting to work.

This behavior showed both his need for kinetic activity and a desire to interact with other children during seat work. Unlike the other high activity students in this sample, Ronnie was never observed being excluded from activities, receiving time-out, or being sent to the principal’s office. In fact, other than minor redirection (such as being asked to sit down) there were no disciplinary events observed with Ronnie, even though he was very active and sometimes even mischievous in class.

Ronnie has completed his worksheet despite being frequently up and down in his seat, playing with the crayons and scissors, and talking to his classmates. As the task winds down, the general noise level in the room begins to pick up. Ronnie looks up at the

ceiling for a moment, leaning back in his seat. He begins clapping, and then stands up and does a little dance. The boy sitting next to him jumps up and does the same, and then the teacher looks at them both and says "Sit." They both sit, but the rest of the class is also losing focus, becoming louder, and children are moving about. Ronnie stands up again, and jumps up and down next to his seat.

The above example illustrates how an active child can elicit similar behavior from another student in the class. However, based upon the observations of Mrs. W and Ronnie in the classroom, it doesn't appear that he experienced any different treatment or negatively charged environment due to his high level of activity.

"She didn't single kids out. I just don't remember her singling kids out. She was very different from, for example, Ms. G. You know, with her [Ms. G] anyone could be the target of criticism and the class as a whole certainly was. But she [Mrs. W] sort of enjoyed her kids. So no, I don't feel that she targeted kids who were more active."

Outcome and Conclusions

Ronnie proved to be a competent kindergarten performer who is also likely to have had a positive experience in his first year of school. At year's end, Mrs. W projected that Ronnie "(would) do well in first grade", both because he improved over the kindergarten year, and was above grade level in reading. [From outward appearances, Ronnie's teacher largely ignored his active behavior and did not allow this to become a negative factor either in her classroom or in her relationship with Ronnie. Mrs. W's self-described "old-fashioned kindergarten" environment was probably an excellent place for an active child like Ronnie to get his start in school].

George in Kindergarten

Child Description

George is a Caucasian boy of about average size in Ms. G's class. (Ms. G is also Caucasian.) George is quite bright, social and very talkative; he often talks to his neighbors or to himself while he works. He was diagnosed with speech problems early in the school year and is sometimes difficult to understand; his teacher reported that he had trouble making himself understood, but this improved with therapy. George's grades were quite good; he averaged a

98% for math and a 95% for reading. He was late to school 15 times over the year, and he was absent 12.5 times (most of these were during the first half of the year).

Teacher-Child Interactions

On the *STRS*, Ms. G rated her relationship with George as being low on conflict, and high on closeness, with an overall relationship score at the 99th percentile. Based on observations, however, George's interactions with his teacher appeared to be more neutral than positive. Dr. Cohen referred to George as Ms. G's "golden child," presumably meaning he was her favorite. However, Dr. Vondra did not notice that she was very close to any of her students; instead, she felt that Ms. G was rather detached with the children. Observations and teacher report give credence to both of these views. George did have the most positively rated teacher-child relationship of all of the active children, and some positive interactions were observed. Since she was the teacher who *most* frequently corrected the students, the following interaction between George and Ms. G seems uncharacteristic.

After the teacher is done giving instructions, George gets up and approaches her. "Ms. G, I'm sleepy."

"Didn't you get enough sleep last night?" she asks sympathetically.

"No," he sighs.

"Okay, go back and sit in your chair."

Instead, he falls on the floor at her feet, and she looks at [the observer] and laughs. Ms. G tells George again, mildly, to go back to his seat. He goes to his chair, and drags it back to sit next to Ms. G. She ignores his disobedience, but does not engage him either.

This behavior toward George is quite a bit more tolerant than what was generally observed in her class. (For example, Dr. Cohen remembered an incident where Ms. G was furious at Ty for stopping in the bathroom on his way back from one of his pull-out classes; Ty was 10 minutes late, and was sent to the principal's office as a result).

Ms. G was certainly not effusive or overly warm in her interview about George, yet she did point out both his activity level, and positive qualities that she felt he had.

"Beginning of the year, he came in, wants to follow the rules sometimes, is fidgety, up and down. Gets very excited about learning and wants to please, and wants to have the best work. And when you look at a lot of the students you see they do the work because you tell them to. And with George at different times I'll see him doing the work because I told him to, but also because he's interested in the work. He brings his own learning experience also."

“And I think if the kid needs to stand up and do his paper then by all means, stand up. As long as it’s not disruptive to others”....

Ms. G demonstrated in her statements both that she appreciated George’s intelligence and achievement motivation, and recognized the general need for physical activity in kindergarten.

Behavior and Punishment

At the end of the year, Ms. G reported that George behaved much more appropriately than other children his age. However, in the taped interview about George, she identified some minor issues with his behavior:

“George came in shy and as the year went on he started to talk more. I would say within the last month, month and a half he got real excited, talking more to the students, even talking out where I’ve had to redirect that a couple times. At the beginning of the year there were some family things he went through. I definitely feel that there is an improvement in his speech too. So I think that is building confidence within him. Sometimes when he talks or we sings songs he is louder than the other kids and I think a lot of that might relate to his speech – just articulating and hearing the different sounds and trying to get it right - it just comes out louder.”

[Ms. G seemed both more sympathetic to George, and more understanding of his uniqueness and individual needs than she seemed to be when talking about other children in her class]. For example, she made the following statements about what does and does not constitute misbehavior in her kindergarten:

*“So just being active, I don’t think disrupts education. It’s when those activities stop others from learning. **Rolling around on the floor**, kicking and screaming, that’s when it becomes a problem. Just being able to move about, being able to exert their energy, helps them to focus more on the task at hand or redirect themselves.”*

This quotation seems to indicate that Ms. G believes in tolerating active behavior, but her actions overall don’t reflect understanding or tolerance. However, in the description of George’s behavior on the previous page, he was observed to fall on the floor at Ms. G’s feet, and her (highly uncharacteristic) response was laughter. [It is certainly possible that Ms. G was in a particularly good mood that day, but the overall pattern of teacher responses to George’s behavior appears to be more lenient than Ms. G’s general style]. In fact, this teacher averaged 1.6 corrections per 15-minute observation of all children in the sample, but George received only 0.5 corrections per 15-minute observation, even though he was one of the highly active students.

The following is another example of Ms. G's apparently more lenient attitude toward George's behavior.

He fidgets a little as he works, playing with the crayons, shuffling his papers, but he continues to make progress on his work as well. He talks to his seatmate, another boy, on occasion, and both continue their work. Ms. G says, "George, I need you to move over one seat," (to make way for a group activity at one end of the table). Ms. G begins the activity, but George does not move over. In fact, he begins to call out answers occasionally, even though he is not part of the group activity. Ms. G does not reprimand him, however.

Outcome and Conclusions

George's final report card reflects a successful year both academically and behaviorally, as reported by his teacher. His behavior was uniformly marked "Satisfactory" and his grades were excellent with one exception: he received a mark of "Progressing" instead of "Satisfactory" in handwriting. Even with his quite noticeable speech difficulty and his pattern of more active behavior, he appeared to adapt to school well. His teacher noted that he overcame his initial shyness and became very social over the year. In addition, George is likely to have benefited from a positive relationship with his kindergarten teacher. [It appeared that George's achievement motivation and intelligence were characteristics Ms. G valued, and this may have sufficed to make George a favorite with his teacher].

Ty in Kindergarten

Child Description

Ty is an African-American boy with a Caucasian teacher (Ms. G). He is physically thinner than most of his classmates; Ty could even be described as bony. His clothing is usually in disarray by mid-day. When someone enters Ms. G's classroom, there is a good likelihood that Ty will be the first person to greet them. With shining eyes and a conspiratorial smile, this child seems to seek adult attention and approval.

Ty's grades in the kindergarten year were low to average in relation to most other kindergarteners in this sample. Perhaps the most telling indicator is that he was below grade level in reading. His math score decreased over the year from a 95 to an 83. He finished the year

with a 93 in reading and a 90 in language arts. His teacher noted on his report card that he needs to work with more accuracy, and he does not finish tasks in a reasonable amount of time. Attendance records show that Ty missed 16 days of school over the year, and seven of these were in the second half of the year. He was dropped off for school late eight times.

Teacher-Child Interactions

On the *STRS*, Ms. G rated her relationship with Ty as being very high on conflict, and low on closeness, with an overall relationship score at the 2nd percentile; this represents the lowest relationship score reported among this group of high-activity children. Upon observation, it seemed that Ty was marginalized in his classroom: he was frequently not permitted to mix in with the other students. The following excerpt from the observation transcripts describes Ty's interactions with his teacher on a day when he was in timeout for almost 2 hours.

[Ty] puts his head down on the desk while Ms. G instructs the class. After a few minutes of this, Ty sits up and raises his hand. Ms. G comes over, and prompts him to put his name on his worksheet. He puts his head back down on the desk without writing his name. Ms. G prompts him again, and then again. Ty finally picks up his head and writes his name on the page. Then he begins sorting through a shoe-box size container of crayons, picking out and discarding one after another. He begins selecting and placing crayons on his desk, then some of them start rolling onto the floor. Ty continues looking through the box, pulling out more crayons. Now there are crayons all over Ty's desk and the floor surrounding his seat, so he gets down on the floor and starts crawling around, retrieving some of them. His teacher, who was busy talking to the teacher's aide, turns and sees what he's doing. "Okay Ty, what are we supposed to be doing? Putting the animals we talked about on the paper."

[It was clear to the observer that Ms. G's imposed timeout was not helping Ty's focus or behavior, and judging by his actions he also seemed weary; whether due to the situation in school or to another cause is unknown]. The pattern of interactions observed with Ms. G did not look very productive; Ty seemed to increase his off-task behavior and misbehavior (such as crawling around on the floor), perhaps to get attention.

Ms. G says "Sit down," making [the children] join the language arts group, where all of the other students are seated on the floor in a semi-circle. Then Ms. G says to the entire group, "You're sitting still, eyes are on me." Ty sits for a moment, then starts inching away from the group on the floor. Ms. G snaps her fingers at Ty quickly, three times, and he moves back into place in the group. He's sitting directly at Ms. G's feet, and he begins to participate in the lesson. When Ty looks like he's losing focus (i.e., begins fidgeting, looking away), Ms. G touches his arm or hand to try to regain his attention.

This observation demonstrated how Ms. G tried to use touch to keep Ty on-task (an unobtrusive, positive-affect type of redirection). [The finger-snapping was coded as a correction with negative affect]. It can be seen that Ms. G's interactions with Ty seem less positive than those with George, but perhaps more typical of her observed pattern overall. An example of how Ms. G dealt with the entire class follows.

Ms. G stops working with a group of students, and tells the whole class that they have earned a time out because one student tattled on another. All of the students are told to put their heads down on their desks. Ty says "Sorry" out loud, even though he is not the one who tattled. Ms. G tells the class sharply that they have lost their recess for the day. Some students say "Awww!" Ms. G says, "Today you have really been pushing, and being mean to each other, and tattling. That's why we're having no recess." Her tone is severe as she directs the students to go back and sit down in the circle on the red rug for "a review of the rules of our classroom." Ty looks subdued, and he and the rest of the children make their way over to the rug for this punishment.

[In evaluating Ms. G's interactions with her students, it should be reiterated that Ms. G had four of the six most active children in her class, and she is the least experienced kindergarten teacher at Uptown school. Perhaps her reactive behavior is due in part to being overwhelmed].

Behavior and Punishment

Ms. G reported that Ty showed appropriate behavior much less than other children his age. Giving some support to this assessment, Dr. Vondra evaluated Ty's behavior as distractible, and in fact his CARE Project activity was designed specifically to work on his attention span.

Ty sits in the assigned [timeout seat] for a moment, then begins wiggling and moving around in his seat. He grabs at his shoe, then scoots his chair toward the teacher's aide, then tries to make eye contact with the observer. He appears to be trying to get either the observer or the aide to interact with him by making faces. The aide laughs. Ty puts his head under his desk, then kneels in his chair, and leans over toward the observer and grins, stating under his breath "I have a bug." Ms. G begins to talk about animal noises to the group, behind Ty. His attention is caught for a moment, but he does not try to participate in the general responses to Ms. G's questions about animals.

Ms. G's response to Ty's activity and/or distractibility was usually to place him in timeout. Ty was observed at different times being seated at a separate table from the other students, being sent to sit in the hallway, or being put at a small desk facing a wall where he could not see the teacher or his peers. These punishments were often lengthy, and one day he

was observed sitting at a desk facing a wall for almost two hours. [It seems unlikely that long timeouts would help to increase a distractible child's ability to focus, therefore it is unclear what rationale the teacher had for using this approach. Perhaps it was easier for her to manage the class if Ty was excluded from participating]. Dr. Cohen described the types of discipline she observed in Ty's classroom in the following excerpt.

The punishments in Ms. G's kindergarten were cruel, in my opinion, between being put in the corner, and having privileges taken away (but the children who missed out had to watch the others enjoying whatever it was). Ty got sent to the principal's office more than once while I was there, he was even sent home for behavioral reasons a couple of times, which seemed excessive. For talking back, it wasn't like he had a knife or anything! Ms. G told me once, "He had a bad day, and he talked back, so he got sent home."

Outcome and Conclusions

Ty is an active, distractible child, and this behavior increases his risk for having poorer relationships with his teachers and a poorer academic outcome. Ty's academic scores were average, except for his math grades and the assessment showing that he is below grade level in reading. He also received poor marks for behavior, with the teacher noting that he is restless, unmotivated, doesn't pay attention, and disrupts class. [Ty's experience in kindergarten was by far the most disturbing to observe. This appealing five-year old child was frequently kept on the margins of the classroom. He was so often barred from interacting with others that by the end of the year it seemed as if he no longer even tried to participate in class]. From Dr. Cohen's perspective, Ty was less a behavior problem than a victim of circumstances:

"I never had any trouble getting him to focus or stay on task when I worked with him, but he was so active and Ms. G just couldn't manage him well. You know he really did want to please. But Ms. G, who is also a needy person, was a truly poor fit for Ty. I think the kids in her class in general who were needy really got the shaft. She had no patience for those kids."

This supports the idea that a poor teacher-child fit may have existed not only for Ty, but for at-risk children in her class in general. Dr. Cohen referred to an incident of more extreme punishment in Ms. G's class that occurred when Ty took too long returning from the bathroom (10 minutes) and Ms. G screamed at him and had the principal send him home for the day. Dr.

Cohen interpreted Ms. G's reaction as revealing more about her mind-set toward all kindergarten children than toward Ty specifically.

"This was another case of her attributing spiteful intentions to just normal, kindergarten impulsiveness. She didn't have an understanding of their developmental level."

This possible lack of understanding, combined with a tendency to correct and punish students more frequently, and a poor teacher-child fit between Ty and Ms. G appears to have set up a particularly negative teacher-child relationship and a sub-optimal first year experience in school for Ty.

6.8. Qualitative Case Summary

Some common threads have emerged from the case studies described here. The recurring themes in the observations and interviews that appeared to be salient to these more active children's experiences in school include differences in teacher behavior management approaches, teacher-child fit and ethnic match, and differences in teacher personality and approach such as structure and control versus flexibility.

6.8.1. Behavior Management

Two of the three teachers who had highly active students from this sample were observed using harsher, more reactive and public types of punishment with their kindergarten students. The third teacher, who did the least amount of correcting, was notable because she did not single children out for discipline. All teachers were observed occasionally using less obtrusive behavior management techniques, such as whole-class reminders, or giving a non-verbal cue (such as making eye contact or moving into closer proximity to the child) to get students back on task. Although conclusions about group differences cannot be made from individual case studies, the two active children who seemed to have a relatively positive year according to both CARE staff and behavioral and academic records (Ronnie and George) were never observed being punished harshly. In contrast, the 3 children who seemed to have the least positive

experiences in kindergarten were more harshly punished, and two of the three were observed being sent to the principal or sent home as punishment. (These children include Manny, Jessie and Ty.) However, the infractions committed did not appear to be serious enough to warrant a day's suspension, and inconsistencies in the severity of punishment used and in teacher treatment of different students were observed.

6.8.2. Teacher-Student Match

For the group of six highly active children observed, the quality of teacher-child relationships and goodness of fit varied widely. The two children who seemed to fare best were both ethnically matched with their teachers. However, in these two cases another factor that may in fact be more important than ethnic match can be inferred. For George, a Caucasian boy in Ms. G's class, the fit seemed to be related to her appreciation for his achievement motivation and intelligence. For Ronnie, the good fit seemed to be more about Mrs. W's easygoing, flexible approach to kindergarten, and her tolerance for non-disruptive high activity behavior. (It was also suggested by CARE staff that Mrs. W *might* be predisposed to favor boys.)

Therefore, perhaps when teachers are paired with students based on personality and temperament characteristics, this may serve as a protective factor for highly active children. On the other hand, a poor teacher-child fit, such as the one believed to exist between Ms. G and Jessie, appears to exacerbate issues around a student's high activity. For example, it was observed by CARE staff that Jessie appeared to elicit angry responses from Ms. G, and Ms. G elicited defiant behavior from Jessie. Dr. Cohen summarized the relationship as having "brought out the worst in both of them."

6.8.3. Teacher Flexibility and Control

It appears that Mrs. W recognized and responded to the active students' needs (and indeed, all students' needs) more appropriately, whereas other teachers in the study wanted to fit

children into their own model of the ideal kindergarten child. Mrs. W was notable for her ability to ignore children's harmless, non-disruptive active behavior, even during structured work time. She accommodated their needs by building in frequent breaks, including quiet time, or taking a few minutes from academic work to read an engaging, interactive story. Mrs. D's approach was somewhat more inflexible. She ran a highly structured classroom, and deviations from her agenda such as Manny's activity and off-task behavior were unwelcome, and everyone was made aware of this. However, Mrs. D did occasionally take time out for breaks or an engaging activity, such as allowing the children to walk or dance around the room, and/or playing songs for them. In contrast, Ms. G's approach reflected her desire to be in complete control, as she micro-managed children's interactions and behavior. Unfortunately, her own poor emotional regulation and disorganized, inconsistent, and frequently inappropriate responses to events set a very negative tone in her classroom.

The contrast between an inflexible, controlling teacher and one who is flexible and accepting of children's activity may in part explain active children's differential experiences in kindergarten. (Even the CARE staff liked being in Mrs. W's class because it was a positive environment with a "we're all in this together" feel about it.) One could argue that when dealing with very young children, at least some of whom have no prior school experience, the ability to accommodate individual differences in behavior may be invaluable.

7. DISCUSSION

The intent of this piece of research was to examine kindergarten boys' behavior patterns in the classroom and explore possible differential treatment of boys in school. The target research question was whether sex differences in child behavior may elicit a less supportive learning environment for boys in the first year of formal schooling. The study included qualitative case studies of the six most active kindergarteners in the sample, and examined teacher-student ethnic match as a possible variable of relevance to the research question. Results offered some intriguing suggestions, and led, inevitably, to some more refined questions for future inquiry.

7.1. Gender and Activity Level

It was hypothesized that gender differences in activity level would be detected. On average, boys were significantly more active in the classroom than were girls in this sample of racially diverse children from low-income families. Only when the six highest activity children (83% of whom were male) were removed from the analysis of activity scores averaged over the entire school year, did the gender difference slip to a trend. The extent to which this change would be replicated in a larger sample (with greater statistical power to detect smaller group differences) is unknown. The small number of cases severely limits the power of statistical tests and generalizability, especially in analyses excluding the most active children. However, these findings suggest that documentation of boys' higher activity levels in the research literature is affected by the existence of a smaller group of more extreme children (primarily boys). This

bears examination in future studies, because this small sample reduced the power to detect gender differences, especially when higher activity children were excluded from analyses.

For this sample, boys were more active than girls, and there was a group (primarily boys) who set the upper bounds for activity level. An implication of this finding for education involves the amount of time and attention (or lack thereof) given to early school socialization. In the current era of the academically focused kindergarten, the emphasis has been removed from teaching children to *become* school students in favor of getting straight to the academic work. Kindergarten used to be structured so that children were eased into the school environment, usually for a half-day of “school-like” tasks. These included a variety of developmentally appropriate, less-structured activities that did not require lengthy periods of focus, such as hearing and talking about an engaging story without then being required to complete seatwork. The current, highly academic kindergarten may, in fact, set the stage for the higher levels of conflict found between teachers and boys among similar samples of young children from low-income families (Birch & Ladd, 1997; Childs & McKay, 2001; Murray & Murray, 2004). Teachers, at least in Uptown Elementary School, are required to get children academically “up to speed” quickly, using plenty of rote learning and self-directed, passive seatwork. In opposition to this goal, active students may actually perform better if they have gross motor activity built into their day, including some freedom to move around, breaks from academic time, and tasks where children learn by doing. Perhaps active children could focus and stay on task longer if they could expend some energy moving between learning stations, or standing while working on a project. This idea is supported by studies showing that a high level of engagement in elementary school classrooms reduces behavior management problems (Greenwood, 1991; Luiselli et al., 2005). In addition, hands-on and cooperative learning tasks for kindergarteners

can allow children to move around, interact with each other, and still perform the work required by rich, constructivist tasks that span multiple domains of learning. For example, small groups of children could participate in a cooking exercise, where they “read” or interpret a recipe with scaffolding from an adult, count units of measure, practice following directions, and collaborate to produce a product. This exercise addresses several learning goals while allowing children to have some freedom to move, interact, and learn from each other, while receiving coaching support from a teacher. It is argued that this type of learning environment could benefit active children in several ways. Student interest may be captured for longer periods of time in an engaging, complex learning situation. Also, an active learning task such as this one allows for more standing and moving about, as opposed to confined, less engaging types of tasks like worksheet completion.

7.2. Disparate Discipline

It was hypothesized that boys would be disciplined more frequently than girls, and in fact, boys were observed to receive more correction from teachers than did girls, as the literature on discipline in the classroom indicates (Du et al., 2003; Skiba, Michael, Nardo & Peterson, 2004). This statistically significant difference by gender even remained after removal of the highest activity students; therefore it is likely to be a sizeable effect. This is a sobering finding, because these boys (who are from low-income families) are already the children at greatest risk for poor school outcomes, such as failure, retention and dropout (Hoffman, Llagas & Snyder, 2003; U.S. Department of Education, 2000).

It has been established in the literature that relationships between teachers and students are related to future academic performance (Birch & Ladd, 1997; Pianta, 1997). In fact, relationships with teachers in kindergarten can predict both later behavior and school

achievement through the eighth grade (Hamre & Pianta, 2001). More specifically, higher levels of conflict translate into a more negative teacher-student relationship (Pianta, 1994) which, in turn, is associated with lower subsequent academic performance. Therefore, active children who are often singled out for correction and/or punishment by their teachers may be at increased risk for poorer academic and behavioral outcomes. To the array of demographic risk factors (poverty, male gender, and in some cases, minority ethnicity), we must add the more frequent negative feedback teachers give these young children, while they are in the critical process of developing their initial self-concept as school students.

7.3. Teacher Affect

It was hypothesized that teacher affect would prove more negative toward boys. No difference was uncovered in teacher affect expressed toward boys as compared to girls, in contrast to findings in several articles reviewed. The latter indicate higher levels of conflict between early elementary school teachers and their male students from both low-income (Childs & McKay, 2001; Murray & Murray, 2004) and middle-income families (Hamre & Pianta, 2001). It is difficult to know whether the failure to replicate these prior findings is related to the small sample size, measurement differences, or sample differences. One possible reason is that the above-referenced studies measured negativity in the relationship from the teacher's perspective. This investigation used observed teacher behavior toward children (in conjunction with teacher ratings on the *STRS*) as the measure of teacher affect. It is possible that teacher affect was more positive when observers were in the classroom (i.e., teachers may have been "faking good" by using a mild tone while disciplining the children). This could explain why there were more corrections for boys, but not a comparably higher frequency of negative affect observed. In

addition, on the *STRS*, teachers reported relatively high levels of conflict between themselves and at least three of the five highly active boys in this study.

Since high activity children (83% boys) were corrected significantly more frequently than their peers in the sample, but teacher affect was not different for these students, a post-hoc analysis was added in an attempt to further illuminate the issue. A test for differences between three levels of discipline (none, slight, and harsh) over two levels of activity (high and low) suggested that teachers did use more severe disciplinary measures with the high activity students than with the children who displayed lower activity levels. A “slight” punishment or correction included verbal reminders, directives, or physical reminders, such as saying “Please sit down” or physically removing a child’s hand from their backpack during a lesson. A “harsh” disciplinary action included reactive forms such as yelling or shaming, and presentation or removal punishments such as timeout or taking away treats. Results of this analysis lend some support to the theory that active, but not intentionally misbehaving boys (and one active girl) are in fact treated more punitively in kindergarten. This finding also supports the linkage in the proposed causal model between high activity level and harsher punishment by teachers.

7.4. Activity Level over Time

It was hypothesized that as children learn classroom expectations and adapt to the structure of the school day, they increasingly internalize classroom norms. This would result in lower activity levels among the students over the school year. It was unforeseen that children entering kindergarten would become *more* active over the school year. Perhaps children were more cautious in the first half of kindergarten, and developed a comfort level in the classroom over time, allowing their “true” activity level to emerge. It is also possible that greater student

activity is to be expected in May (when the follow-up data were collected) than in November, due to the impending end of the school year and the excitement associated with field trips and other special activities that were scheduled for the last month of classes. Observers did note that, in May, teachers seemed to lower their expectations and to challenge children less to set and accomplish new learning goals. Perhaps, having finished the standardized testing in the winter, teachers may have experienced less pressure to have their students “perform” well.

7.5. Ethnic Match

It was hypothesized that teacher-student ethnic match might be related to the amount of correction received by students. The quantitative data on teacher-student ethnic match should be interpreted with caution, due to exceedingly small numbers in the subgroups for comparison (more than one cell contained only one or two children). Teacher affect did not tend to differ by teacher-student ethnic match, but average number of teacher corrections was higher for Caucasian teachers dealing with African-American students, and for the one African-American teacher dealing with Caucasian students. From the case study data, it appears that of the six high-activity students observed, the two children who enjoyed the best teacher-student relationships (George and Ronnie) were both ethnically matched with their teachers. Therefore, some limited evidence exists here suggesting that teacher-student ethnic match is relevant to the public kindergarten experience of children from low-income families and might be considered a protective factor for highly active children.

In several of the case studies presented, it was suggested that the goodness of fit between teacher and student characteristics was related to the quality of both the teacher-student relationship and the child’s overall experiences in kindergarten. The cases of seemingly poor teacher-student “fit” among these more active kindergarteners seemed to be characterized by

teacher intolerance of active behavior, and high levels of discipline directed toward the students. In both cases where a good teacher-child fit appeared to exist, teacher and student ethnicity were also matched. However, these positive relationships appeared to depend on a good fit between other teacher and child characteristics, not simply ethnic match. For example, it was suggested that Mrs. W may have been the best kindergarten teacher at Uptown for an active (especially male) child like Ronnie, because of her hands-off behavior management approach and her apparent enjoyment of her students. Overall, Mrs. W did the least amount of correcting or disciplining of any of the teachers. In their interviews, the CARE staff noted that the children in this teacher's class seemed to do particularly well over the school year. She had the most teaching experience of all of the teachers in this study, and was nearing retirement. This teacher's ability to accept individual differences among her five-year-old students and to allow the students some latitude in their behavior was notable. On the other hand, it was apparent that there was something about Jessie that displeased Ms. G, and we cannot attribute the poor fit to Jessie's activity level alone, because not all active children in Ms. G's class had a poor teacher-child relationship. (The CARE staff believed that Ms. G elicited defiance from Jessie through her frequent, often negative, corrections of Jessie's behavior.) The above examples describe possible teacher and child characteristics that might play a role in facilitating positive teacher-student relationships. The concept of "goodness of fit" needs to be considered in a causal model relating children's gender and activity level, through teacher responses and the teacher-child relationship, to adjustment in school. Particular combinations of teacher and student characteristics can have effects on the relationship that are unique to a given teacher and student. Characteristics that come into play in one relationship have little relevance in another.

7.6. Student Academic and Behavioral Outcomes

It was hypothesized that the highly active children would have poorer academic and behavioral performance as rated by teachers at the end of the school year. Data from student report cards and teacher ratings of motivation (“working hard”) and behavior were the indicators used to determine how the six highly active students were functioning. Only two children had poor academic performance at the end of the year (as reflected by a reading score “below grade level” noted on the final report card). Both of these children (Ty and Jessie) also scored high on observed punishment. Overall, lower observed punishment was associated with higher ratings of behavior and motivation, and higher observed punishment was associated with lower behavior and motivation ratings. However, these linkages did not hold true across all subjects: Manny scored higher on observed punishment and had a lower behavior rating, but also received a higher motivation score and high grades. Not enough is known about Manny to account for these anomalous results, but it seems likely that some kind of protective factor(s) may have been present (in this child, or in his home life?) to explain them. By studying individual cases, it becomes clear that more latitude for idiosyncratic variables and unique circumstances needs to be built into our causal modeling.

Again, because of the limited generalizability of these results, they can only be interpreted as suggesting associations between higher levels of punishment and poorer school adjustment indicators. Taken together with the case studies of these children, it is clear that at least some highly active children are *not* subjected to a negatively charged environment in kindergarten, and they do have positive adjustment outcomes in school.

7.7. Suggested Revisions to the Causal Model

Both the case profiles and quantitative data described here can illuminate some of the processes at work in kindergarten classrooms serving low-income children. One of the pieces of information gleaned from this investigation concerns the fact that the negative transactions that were expected to take place between active boys and teachers did not tend to occur across this sample. It seems that for only two of the active students (one of them a girl), a pattern of escalating negative transactions between student and teacher emerged. A problem with general models of relationships among variables is that the idiographic variation seen in this investigation is not represented there. These models simply don't reflect all cases, and this circumstance can probably best be learned when more individually-focused observations and other qualitative measures are added to the study design.

In this study, how various teachers *interpreted* child behavior appeared to be more salient to teacher responses than simply the objective state of being a boy with a high activity level. For example, Mrs. W. recognized that 5-year-olds need help with transitions, opportunities to be active, and frequent breaks from focused seatwork. Additionally, students in her class were not commonly corrected and punished, and most children seemed to experience a supportive environment in Mrs. W's class. In contrast, Ms. G appeared to interpret most active students' actions as being inappropriate or challenging of her authority, whether they were male or female. She spent a great deal more time correcting students than did Mrs. W, and two of the three active children in her class had less-than-positive relationships with her. (A fourth child, Jessie, can be assumed to have had a high-conflict relationship with Ms. G due to the frequent punishment she received and negative statements Ms. G made to other adults about her.) These cases suggest that individual teacher characteristics, and how teachers tend to respond to child characteristics, play an important role in determining whether highly active students experience an unfavorable

environment in kindergarten. Based upon the study results, a revised causal model is proposed to explain active students' school outcomes in kindergarten (see Figure 5).

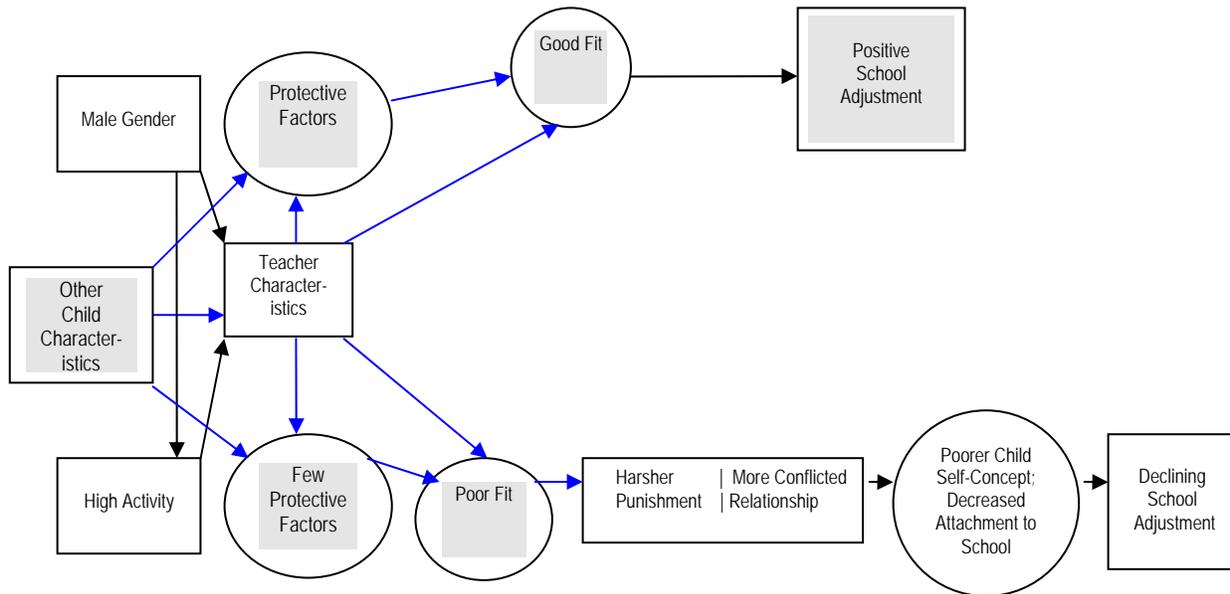


Figure 5. Revised Causal Model

The original model appears to have been too simplistic in the undifferentiated way that teacher and child characteristics were addressed. It was originally proposed that male gender and high activity would, in and of themselves, be consistently linked to declining school adjustment, through the path of increasingly negative transactions with teachers. Results suggest that, in fact, other child—and teacher—factors are needed to reliably predict declining adjustment. In some cases, child factors such as achievement motivation and intelligence appeared to keep highly active boys from eliciting negative reactions from their teacher (see the discussion below on protective factors). In other cases, child factors such as distractibility and defiant reactions seemed to elicit more negative reactions from (at least some) teachers.

Children with poorer school adjustment were those displaying not only high activity, but also other behavior(s) likely to be problematic in the classroom; they were not ethnically matched with their teacher, and did not appear to come from homes supportive of education.

An example of multiple risk factors was provided by Jessie, a highly active African-American girl who struggled with a controlling, unsupportive Caucasian teacher. In the apparent absence of any particular protective factors for Jessie, a high observed amount of punishment and negativity in the teacher-child relationship ensued. By the end of the school year, Jessie was below grade level in reading, she experienced a high-conflict relationship with her teacher, and she was the most frequently disciplined (though *not* the most active) child in the study.

The need to consider some accumulation of risk factors connects results of this investigation to an extensive literature on the relation of risk to development (e.g., Ackerman et al., 1999; Campbell et al., 1996; Masten & Garmezy, 1985). Risks show a linear, or even geometric, relation to problems in development. It is necessary, therefore, to include the contribution of “other child characteristics,” at the very least, to the causal model.

Results of this study also warrant integration of some version of the “goodness of fit” construct into the model. It appeared that individual variation in child characteristics (such as gender, intelligence, and temperament), in combination with unique teacher characteristics (enjoyment of boys, tolerance for higher activity, appreciation of child motivation and intelligence) created some level of “goodness of fit” between teacher and student. Both the dynamic and the construct have received attention in the parent-child literature (Clark, Kochanska, & Ready, 2000; Conger, Patterson, & Ge, 1995; MacKinnon-Lewis, Castellino, Brody, & Fincham, 2001; Mangelsdorf, Gunnar, Kestenbaum, Lang & Andreas, 1990; Radke-Yarrow & Sherman, 1990). It makes considerable sense that this dynamic would also have

relevance for relations between teachers and students. For example, Mrs. W was a teacher who seemed to have a great deal of patience with (and liking for) active boys, perhaps especially African-American boys. She seemed to appreciate high spirits, as long as children in her class remained “respectful” of her and each other. Mrs. W appeared to enjoy Ronnie, a highly active (even somewhat mischievous) African-American boy. Ronnie was more often out of his seat than in it, frequently called out in class, and even seemed to elicit more active behavior from other boys, yet he managed avoid frequent correction or punishment in kindergarten. In fact, he was reported to have spontaneously hugged Mrs. W in class. This relationship illustrates a relatively good “fit” between teacher characteristics and preferences and child characteristics.

It was also necessary to consider what could be described as “protective” factors for individual children, (or the lack thereof), in the causal model. As noted above, some child qualities seemed to lessen or prevent negative teacher reactions in at least some teachers. A growing literature has been devoted to identifying factors broadly considered protective against specific or general risks to development. Protective factors found to characterize “resilient” children include characteristics such as high intelligence and good social skills, but also home environments that are supportive of development and schools that combine high standards and strict discipline with individual attention and care. In addition, they include warm, supportive caregivers and few separations from these caregivers. All of these have been found to ameliorate risk for children from populations comparable to the one sampled here (Brody, Murray, Kim, & Brown, 2002; Cicchetti, Rogosch, Lynch, & Holt, 1993; Cowen, et al., 1997; Luthar, Cicchetti, & Becker, 2000; Werner, 1993). In the present investigation, George was a highly active, Caucasian boy (ethnically matched with his teacher) who was a smart, highly motivated student.

According to his teacher's report, he enjoyed a highly positive relationship with her. He was observed to receive low levels of punishment.

Although qualitative case studies like these cannot be considered representative of the entire population of students, the profiles of individual children *can* be used to establish that there are, in fact, cases—indeed subpopulations—like these in school, as well as variables and causal connections previously overlooked in general causal models.

7.8. Limitations

There are several limitations to this study, the most obvious of which is the small sample. Since there were only 28 kindergarteners for whom consent and complete data could be obtained, some of the subgroup analyses of interest were not feasible to study quantitatively. Once groups were broken out by teacher and student race, for example, there were cells containing only one or two participants. Therefore, insufficient power to detect differences between groups was a critical issue. In light of this, it is surprising that as many statistical tests produced significant differences as emerged. A sizable sex difference was detected in activity level. The sex difference in amount of discipline received was also significant. No difference was found only in teacher affect across gender.

In quantitative terms, this study has limited generalizability due to the small size of the participant sample and potential selection bias. Only those children whose parents consented to allow them to be observed were included in the study. (Each parent was contacted twice, via letter and phone call, in an attempt to recruit as many participants as possible; two small (\$50) cash prizes were offered as incentive to participate.) There could be important differences between the study sample and the population of kindergarteners at Uptown , and between this

sample and the population of urban schoolchildren from low-income families in this region of Pennsylvania.

In addition, some aspects of this study are particularly vulnerable to social desirability needs of the teachers observed, and to demand cues of the research situation. Both student and teacher behavior undoubtedly depends, at least to some degree, upon the presence or absence of observers in the classroom, so it cannot be concluded that observed teacher actions and responses were typical. As evidence of this potential source of bias, when the extended (2-hour) observations of highly active children were conducted, some of the teachers said and did things that were either uncharacteristic, or were indicative of the fact that they had discovered which student was being observed. For example, while Manny and Ty were being observed, both of their respective teachers approached the observer and made unprompted comments about the child of interest. (This normally did not happen during the brief, 15-minute observation periods). An observation of Ronnie that took place when a substitute teacher was in charge seemed to elicit some staged teacher and child interactions. The substitute probably realized that Ronnie was being observed, and she began to call on him more frequently, and she showed examples of some of his work to the observer (but not any other student work). Therefore, the qualitative data collected during the 2-hour observations of each highly active child should be viewed with caution.

However, results that do inspire confidence include the finding that boys are more active than girls in this sample, both because of the large effect size and prior support for this theory in the literature. The finding that teachers correct boys more frequently than girls is similarly persuasive, because the difference remained even after the highest activity children were removed from the analysis, and again, previous findings in the literature support this difference.

Finally, recognition of the need to invoke additional variables and effects, based primarily on the qualitative case study data, arose from what can be considered compelling discrepancies in relationship and child adjustment outcomes across children at “comparable” risk. In summary, despite a number of serious methodological limitations, important considerations and conclusions emerged from this investigation of sex differences in activity level of low-income kindergarten children.

7.9. Implications for Teacher Training

The researcher’s own biases, described in the Background section of this document, include assumptions that must, inevitably, shape personal interpretation of the study’s implications. In brief, these biases include the belief that over-management of classroom behavior can be a negative factor in early schooling, that children who are frequently punished in the elementary years experience a negative environment in school, and that many children are not developmentally ready for the academically focused full-day kindergarten. All of these individual factors affect the student experience in kindergarten and the developing academic self-concept.

If results of this investigation are representative of some or many public school children, at least public school children from low-income homes, then educators need to be aware that boys are more active than girls in kindergarten, and that teachers tend to discipline boys more frequently and severely than girls. Teachers must recognize the potential impact of their responses on subsets of students who are already less likely to succeed in school due to multiple risk factors. It should also be reiterated that at least one highly active girl also was more frequently disciplined, so there are predictors other than child gender (such as high activity in

combination with poor teacher-student fit) for experiencing a less positive environment in schools.

There are many challenges inherent in teaching a full-day, academically focused kindergarten, including wide variations in student readiness for learning, high academic expectations from administrators, pressure on teachers to produce results, and variations in behavior and activity level among students, particularly boys. It is reasonable to infer that an academically focused environment is more challenging for highly active students. The focus on rote learning, didactic instruction, and stationary activities such as worksheet completion may uniquely disadvantage those who have a greater constitutional propensity for physical activity or slower maturation of cognitive skills like attention focusing and executive function.

For teachers in the early grades of public school who are teaching low-income and minority populations, it might be useful to distinguish between children who merely display higher activity versus those demonstrating intentional misbehavior in the classroom. If early elementary educators could be more cognizant of the physical activity needs of young children, and respond by requiring students to stay on-task for shorter periods, and build in more gross motor activity throughout the school day as part of learning, disciplinary events and teacher-student conflict could potentially be reduced. This would be an important first step toward more positive school experiences for children who are at risk for poorer school outcomes.

One possible argument against introducing more activity and more breaks from didactic instruction is the reduction in teaching and learning time. However, at least for this sample, it seems that teachers already spend a large amount of time correcting and disciplining more active children during lessons. It can be both disruptive to the class as a whole and to learning for the active children when the teacher stops frequently to give direction and discipline transgressors.

It may, counter-intuitively, be more efficient to try to build more activity time into instruction, by 1) incorporating hands-on discovery learning activities that address multiple academic domains; 2) building in opportunities for physical activity between lessons; and 3) spending more time helping children use transitions to regulate their own behavior.

Even the best teachers must struggle with negative reactions to and interchanges with specific students. Teacher training should emphasize the importance of the relationships teachers and students build together, with planned experiences in role-playing ways both to enhance and, when necessary, deflect or de-emphasize them. This may be particularly important for teachers planning to work in the early grades, when children construct their academic self-concept. Obviously teacher personality cannot be changed. However, all pre-service teachers should at least be made aware of the significant influence teachers exert upon young students through relationships, and how these can be improved. Pre-service teachers should also be aware of the tendency to correct or punish some subgroups of students (such as more active children, minorities, and boys) more frequently and/or severely. Teacher training can encourage pre-service teachers early in their training to think through which student populations are likely to provide a better fit for their individual personalities and biases. Pre-service training should also incorporate coaching in developing the ability to recognize when one is feeling annoyed by students, and teaching strategies to work more successfully with such students.

7.10. Future Research

It would be useful to replicate and extend this research, based on the finding that boys from low-income families in public school kindergartens are more active and receive more correction from teachers. A comparable study with a larger sample of both children and teachers could help clarify whether 1) higher activity levels among boys are in fact indicative of separate

distributions of activity level for each sex, or merely attributable to a small subset of very active boys, 2) whether differences in teacher correction are related to child activity level, and 3) whether teacher-child ethnic match is related to amount of discipline and teacher-child relationship quality. It would further extend understanding of this phenomenon to replicate the study using middle-class kindergartens, to see if differences in activity and correction cut across socioeconomic strata. Data collection on teacher-child relationships for a larger sample of both higher- and lower-activity children of each gender might help illuminate whether being a highly active male is a predictor of poorer relationships, if all highly active children in general are likely to experience poorer relationships with teachers, and if/to what extent ethnicity plays a role in determining relationship quality

A completely different, potentially revealing future investigation could involve an in-depth qualitative study and videography of Mrs. W's classroom environment and teaching practices. This kindergarten teacher's approach to managing a group of mostly African-American boys from low-income homes in a more accepting, relaxed, and upbeat manner deserves more extended study. A central goal would be to identify exactly how Mrs. W's teaching practices seem to support learning for students in her classroom. In addition, it would be interesting to follow some of the kindergarteners from Mrs. W's 2004 class in two years, to see whether these children demonstrate better school adjustment compared to their peers. Research shows that minority children from disadvantaged backgrounds can begin to decline academically relative to their white, middle-class peers by the third grade (Hoffman, Llagas & Snyder, 2003), therefore it would be revealing to determine whether Mrs. W's students continue to "blossom" over time and, if so, whether and how subsequent teachers made a difference.

An intervention study could also build upon results of the present investigation. A teacher-training program that illustrates the importance of teacher-student relationships and incorporates relationship-building and relationship-keeping skills with more difficult children (e.g., highly active boys from low-income families), perhaps through role-playing, could be introduced either as part of pre-service or in-service training. Such a program might be especially critical (and challenging!) for teachers in the early grades working with low-income, ethnically diverse populations of students. Giving teachers the opportunity to reconceptualize problematic teacher-student interactions or relationships in the presence of an expert facilitator would likely be a critical component. Testing such an intervention's effect on teacher practices and child classroom adjustment, as well as on measures of teacher-child relationship quality, could provide a key test of the hypothesized mediating influence of the teacher-student relationship in the causal model proposed.

7.11. Conclusion

This study was designed to explore whether sex differences in child activity were apparent in kindergarten, and whether high activity might elicit a less supportive learning environment for boys in the first year of formal schooling. The research was successful in that it illuminates some issues for children who demonstrate higher activity levels in school, and holds potential implications for teacher training, if the results are accurate and generalizable.

Results replicate previous findings that boys are more active, and that boys receive more frequent and harsher forms of punishment in school. The case studies reveal that at least some of the high-activity children have more negative relationships with their teachers, and they may experience a more negatively charged environment in school as a result. However, some

protective factors for individual children were also identified, and teacher-child “fit” appeared to play a key role in how relationships unfolded over the school year.

Research has established that negative, conflicted teacher-child relationships predict lower achievement. This study suggests that more active children, who are primarily boys, have a greater probability of being frequently punished and having higher-conflict (negative) relationships with their teachers. It is important to develop a complete understanding of the dynamics in these relationships, particularly as they relate to active children and boys, in order to improve educational practice and to facilitate the best possible educational outcomes for all children.

APPENDIX A

Qualitative Data

PART I: 2-HOUR OBSERVATIONS OF HIGHLY ACTIVE CHILDREN

PART II: TEACHER INTERVIEWS

PART III: CARE PROJECT CONSULTANT INTERVIEWS

QUALITATIVE DATA
PART I
2-HOUR OBSERVATIONS: HIGHLY ACTIVE CHILDREN

Two-hour intensive observations were conducted with each of the six highly active children. The observer recorded all of the child’s actions, verbalizations, and everything that happened between the target child and the teacher and/or peers. The goal was to capture classroom behavior and student-teacher interactions for the most active children in the study sample.

Target child: code name Jessie, African-American female

Teacher: Ms. G

8:40 a.m. Ms. G is testing individual children on this day; therefore her attention is not completely focused on classroom management. It is early in the morning, and Ms. G has help from an aide working in the classroom, who is putting together sets of worksheets, and also watching over the students. (Ms. G’s aide is a young, African-American woman who is related to several of the children in the school, including at least one kindergartener.) Jessie, the target child, is sitting toward the back of the room at her designated seat, and Ms. G is on the opposite side of the classroom, where she calls students to her one by one to complete a verbal assessment of reading/language arts skills. The rest of the students are intended to be completing worksheets at their seats.

Jessie is working on the academic task at her seat. She changes crayons frequently, looking through the box for the right ones. Her seatmate to the left puts his head down, he is crying. She leans over and puts a hand on his back. “Do you want to make yours like mine?” she asks. (The

boy appears to be frustrated with the task, but of course it is possible that he is upset for another reason). Jessie asks the teacher “Can I help T.J?” Ms. G. nods her head yes. As Jessie begins helping T.J. with his work, he stops crying and rests his head on his hands, watching her as she takes over energetically. She works for some time without stopping.

9:00 a.m. The class leaves the room for a bathroom break; Jessie leaves quickly and is the first child to return. She goes to her seat and gets to work. Ms. G says, “You are working so nice, I’m proud of you!” Jessie also continues to help her seatmate, who still looks downcast. After about 5 minutes, Ms. G notices and asks from across the room, “Are you helping him, Jessie, or doing his paper for him?” She answers, “Helping.” Ms. G says, “Okay, make sure you just help him, and let him do his own work.”

Jessie continues to help T.J. in addition to doing her own assignment. She stands up next to her chair, and works at the table, moving around quite a bit but remaining on task for the most part. She seems to become more active, even a bit agitated, after standing for awhile. She begins singing softly to herself, and is no longer working on her assignment. The teacher’s aide says, “Jessie, act right!” Jessie is then sent to the computers at the back of the classroom to do her daily computer lesson. (These usually take between 10 and 20 minutes to complete). She puts the headphones on and sits down, starting the lesson. She appears to be quite comfortable with using the mouse and keyboard.

9:40 a.m. Within minutes of beginning work, Jessie is sitting backwards in her seat, facing away from the computers. She is talking to a few students who are working at the table behind her, distracting them from their work. The teacher is testing someone and doesn’t notice. Jessie leaves her computer seat and wanders over to the group at the table for a few minutes, and then she returns to the computer and sits down. After a few minutes, she is distracted from her computer task by someone calling her name: it’s a member of the group at the table she has been interacting with on and off. Jessie turns from her work briefly to look and listen to the speaker, and then turns back. She works quietly, remaining on task for some time.

10:10 a.m. Jessie is still working on her computer lesson. Her seatmate at the table is also a very active child; he comes over to try to distract her a few times. He leans over to talk in her ear (she's wearing headphones) and she pays attention to him for a minute, but then returns to her work. She is playing a word game on the computer, and she appears to be absorbed by it. Despite distractions in the environment, she persists at the computer lesson.

When the computer lesson ends, Jessie returns to her table – there doesn't appear to be a specific task the students are supposed to be working on. Some students are coloring, others are reading. Jessie approaches the teacher's aide and says "I got to go to the bathroom." The aide gives her permission to leave the room, and Jessie walks out.

10:30 a.m. When Jessie returns, Ms. G asks her to come up for her assessment. The teacher asks her to repeat certain words and phrases, and to answer some comprehension questions from a short story. Jessie does well, she answers correctly. The teacher's affect appears neither positive nor negative – (this is surprising because about half of the other children did much less well than Jessie – *some* sort of praise would have been appropriate). Ms. G tells Jessie to return to her seat. Jessie sits in her seat and works on coloring her worksheet and occasionally talks with her seatmates (this is 'free time' before lunch: children are allowed to talk and move about as long as the noise and activity level doesn't get too high).

Target child: code name Peyton, African-American male

Teacher: Ms. G

9:00 am Peyton is working steadily at an academic task on a Wednesday morning when the observation begins. He is completing a worksheet, as are most of the other children in the class, while the teacher and teacher's aide are testing individual students on their reading comprehension. After a few minutes, it is time for the morning bathroom break. Many of the children line up eagerly, and Peyton is first in line. The teacher's aide corrects another boy sharply for running to get in line, and Peyton apparently believes that *he* has been yelled at (although he has not). He looks deflated, and slowly goes to the back of the line, but the aide doesn't notice.

When the children file back into class, Peyton returns to his table but doesn't sit down. He begins to work while standing next to his chair. He gets into a verbal exchange with his seatmate, another African-American boy who sits on his right. What is being said cannot be heard, but the boy tells the teacher, Ms. G, that Peyton called him a name. Ms. G tells the boy to tell Peyton what he did that bothered him (inaudible). Ms. G then turns to Peyton and asks him to say he's sorry, but Peyton denies that he did anything wrong, and refuses to say "sorry." Ms. G says "Peyton, you have to say sorry or you'll get a timeout." He refuses, shakes his head no, and says he didn't do anything wrong. "Okay, you just bought yourself a 5-minute timeout. Go over in the corner." Peyton goes over to the corner, and begins to cry. He stands facing the room, and looks at the floor. A few minutes later, Peyton is still crying, arms folded, standing partially hidden behind an easel in the corner. Ms. G calls him over, apparently to process the timeout with him. She talks to him quietly for a moment, and he can be heard again denying having said anything rude to his seatmate. She insists that he say he's sorry, so he goes back to his table and complies, looking sullen. Ms. G says, "Do it without making a mean face at him!" He says "Sorry", then sits and quietly begins to work again, looking subdued.

9:30 am Peyton begins to perk up after working very quietly for awhile. He seems to be trying to find the right crayon in a large box of crayons jumbled together with pieces of crayons. He knocks over some supplies, mostly papers, and gets down on the floor to pick them up. He gets back into his seat, and knocks the papers over again. He retrieves them, but now he is completely off task, staring blankly. After a few minutes, Peyton stands up next to his chair, and leans across the table to get the crayon box. He tussles with another boy at the table (not the same boy he had trouble with earlier) for the crayon box. Peyton wins the struggle, and pulls the box toward him to search for the crayon he wants. The boy on his left grabs it back, and Peyton stands up and leans across the table to follow the box. (He doesn't try to take it back, but he still wants to look through it.)

The class receives another worksheet, and Peyton begins to work on the assignment. He is sitting up on his knees and leaning toward the crayon box while he works. He stops frequently to change crayons, even though the assignment is supposed to be done in pencil. However, no

one corrects the children about using crayons, as long as they work well. Peyton stretches out on the end of the table with his knees in his chair, squirming, but he does continue to work quietly.

9:50 am Peyton appears to be losing interest in his task, as he's looking around the room and no longer paying attention to his work. It is difficult to tell whether he is finished with the worksheet, which is two-sided, or if he's just unable to continue working. (He has been mostly on task for quite a while). Ms. G says "Peyton, you're next honey, come here." He approaches Ms. G at the testing table and sits down. She yawns, and then begins asking him questions. He looks down at the workbook while he answers the questions; he does not make eye contact with Ms. G. She yawns again, twice, very noticeably. "What is this?" she asks, pointing at a page in the workbook. "A paintbrush", he answers. He is unable to answer the next question, and puts his face in his hands. She yawns again, a huge yawn. Then she drills him with more questions, and he struggles to answer most of them. When she's done, she says, "Okay, go back to your seat." He returns to his table without saying anything further.

10:15 am Peyton begins talking quietly with his seatmate on the right, and holds up his worksheets in both hands, as if they he might be showing the boy something about how to do the assignments. Another child comes over and tells Peyton, "It's your turn on the computer." Peyton gets up slowly, perhaps a little bit reluctantly, and walks to the back of the room for his computer lesson. He sits and puts the headphones on, and starts to work. Another very active boy in the class (Ty) is at the next computer, and the two begin talking. Their voices become louder as they talk and laugh, and eventually this attracts Ms. G's attention. She yells, "Peyton and Ty! Turn around and do your own work!" The two boys look up at the teacher, and then they turn back to the computers, but before long they are talking again. Ms. G does not correct them even though they have been talking loudly and have been off task for about ten minutes. (This inconsistency in application of the rules seems to happen frequently in Ms. G's class).

10:40 am It is time for a math lesson, and the children are asked to come into the circle on the carpet in the middle of the room. Peyton and Ty are the last ones who have not yet joined the math group, because they are getting up slowly from the workstations, and are still talking. Ms. G stops the entire class while she directs them to come over and join the group, and she makes a

point of telling each boy where to sit so that they are separated. All of the other students wait while Ms. G spends time getting Peyton and Ty positioned and ready for math. For the next ten minutes, Peyton alternates between paying attention to the lesson and answering some of the questions, and fidgeting, first with his arms behind his head, then looking closely at his shoes, then turning around to face away from the teacher. It has been a long morning of lessons, and it appears as though Peyton is having some trouble with sitting still.

Target child: code name Manny, African-American male

Teacher: Mrs. D

9:45 am Morning academic work is in full swing at the beginning of the observation period. Most of the students in class are sitting at their seats and appear to be on task, but Manny is walking around the tables with scissors in one hand and a glue stick in the other, cutting at the lid of the glue stick with the scissors. Surprisingly, Mrs. D corrects two other boys, but not Manny: “Daniel, we don’t need glue for this task, Charles, we don’t need our glue, put it away and sit down!” Mrs. D is firm but calm as she says this, her tone fairly positive. The reading specialist, Miss B stands over the Manny and the two other boys (who are all seated at the same table) and speaks to them quietly. As soon as she walks away, they begin moving around again, Daniel gets up and walks away, and Manny moves around in his chair, raising both arms in the air and wiggling. He rolls up his sleeve to show Charles his forearm, and giggles.

Mrs. D begins giving some whole-class instruction regarding a workbook that all of the students are supposed to be following along in. She moves to stand directly over Manny and Charles as she speaks. Both boys are back on task, Manny places his finger on the item in the workbook that the class is focusing on, as directed by the teacher. He works along with the lesson for about ten minutes.

10:10 am Manny is called to go to the computer for his self-paced lesson. He gets up and moves over to the computer area at the back of the room. He works on the computer for a time, and he moves about in his chair while he works. After about five minutes, he gets up from the computer, and walks back over to his table to talk to Charles – he stands next to the table talking animatedly and waving his arms. Miss B notices and says, “Manny what are you doing? Get

back over there and do the computer.” (This is said calmly and gently.) Manny heads back to the computer for about three minutes, and then he’s back standing in the center of the classroom again, looking around. Not much is happening, as the teacher is leading a small group in the corner. Manny heads back to the computer and puts his headphones on, and begins working. He appears to be on task, but then begins banging hard on the keyboard, apparently randomly pushing the keys with his whole hand. His feet are flying back and forth as he sits in front of the computer, pounding on the keys.

10:25 am Mrs. D is still instructing the class when Manny jumps up out of his seat and walks quickly back to the center of the classroom. Mrs. D looks up, and says gently “Manny, what are you doing honey? Finish on the computer.” He walks toward the computers but is back in the main class area again almost immediately. Mrs. D corrects him more firmly, “Manny, that’s going to be a check. You have one check left, so you’d better get back there and finish.” [Checks are demerits; it is unclear to the observer what happens after three checks.] Manny goes back to the computer, but doesn’t sit down, then comes back out and wanders around. Mrs. D notices after about 30 seconds. She stops her lesson again and says, “Manny, what are you doing honey?” He indicates that he’s done with the computer. “Okay then, get your reptile book and come sit in the group.” He goes to his seat and begins to gather up his things, and he fidgets with his crayons a bit. “Bring it here, honey.” He gets the pages together and joins the group. “Just pull up a chair behind Charles.” Manny sits.

10:45 am Mrs. D takes his reptile pages (they are to be assembled into a booklet) and looks at them. “Manny, you did a great job with these, honey.” Only Manny’s back can be seen, so it’s unclear whether he is pleased by this praise.

The language arts group begins again. “Everyone point to the ceiling.” Manny leans way back in his chair and stretches his arm overhead in an exaggerated movement. Mrs. D asks similar general questions for all of the students to respond to in unison, but every so often she addresses a question directly to Manny. “Manny, what did I just do?” He responds, “Touched your nose.” To all: “Is that the same or different?” (from the previous action, patting head). The students answer, “Different!” Manny waves both hands in the air, Mrs. D immediately says, “Manny,

hands down.” Manny complies, but he is moving about quite actively in his chair. He is looking around, both hands and feet are moving; only his bottom is making contact with his chair. Then he sits back and fiddles with the front pocket of his shirt, looking down into it. Mrs. D compliments another child, “I like the way you are sitting with your hands folded in your lap.” Manny’s hands fly to his lap and he rests them there for a moment. Then he begins fidgeting again, playing with the collar on his shirt. He puts the point of the collar in his mouth, and then begins chewing on it.

11:15 am Mrs. D addresses another question to Manny directly. She does this several more times, possibly to check to see if he’s listening as he fidgets and wiggles in his seat. “Manny, what’s the rule about a container?” He answers, “If you can put stuff in it.” Mrs. D restates this encouragingly, “If it can hold something, it’s a container. Good job.”

Mrs. D says to the group, “All right, let’s go back to our seats for math. All of the students get up and make their way back to their seats, but Manny remains standing near where the language arts group was. “All right, Manny, let’s sit down”, the teacher instructs. He complies, and Mrs. D says to the group, “Shhh, stop talking.” She begins giving instructions for the math lesson and worksheet while standing over the two tables of children. The students are counting groups of ten, circling them and coloring them. Manny is sitting in his seat, but he’s not working, and his feet are moving all over the place. He turns facing away from the group in his chair (it’s unclear why he does this, as there is nothing to see behind him). “Manny, turn around.” He complies and begins his task, circling a group of ten. “Good line, Manny!” Mrs. D praises encouragingly. All of the students count together, and Manny counts too. Then he looks up at the ceiling and yawns.

Mrs. D puts her finger on the place on Manny’s worksheet where he should be looking, and he comes back to the task again. A general pattern emerges: Manny is on task for a moment, either to keep up with the lesson or in response to Mrs. D’s prompts, and then he gets distracted or gets into something else, like the crayons, until Mrs. D brings him back to task.

11:40 am The math lesson is over, and the class is going to have a song and story before lunch. Mrs. D says, “Manny, sit right here by me” (kindly). He complies, and sits looking at the big, colorful book about flowers and bugs. He moves even closer to Mrs. D, points to the book and says something to her. When the song ends, Mrs. D closes the book, but Manny calls out, “Let’s see the zinnias again!” She pulls the book back out and opens it, showing the page he requested to see to the class.

11:50 am After the story, all of the children are asked to return to their seats and sit quietly until they are chosen to get in line for lunch. Students are chosen one at a time, based upon their behavior. Manny sits as quietly as the rest, but out of 11 students, he is chosen 10th.

Target child: code name Ty, African-American male

Teacher: Ms. G

10:00 am As the observation begins, a mid-morning lesson is taking place on the floor, with all students seated in a circle around Ms. G. Ty is sent out of the circle for timeout, but it’s not clear whether this is due to his inability to be still or the fact that he has just been reprimanded (apparently for his behavior, which occurred before the observation started). Ty sits in the assigned seat for a moment, then begins wiggling and moving around in his seat. He grabs at his shoe, then scoots his chair towards the teacher’s aide, then tries to make eye contact with the observer. He appears to be trying to get either the observer or the aide to interact with him by making faces. The aide laughs. Ty puts his head under his desk, then kneels in his chair, and leans over toward the observer, stating under his breath “I have a bug.” Ms. G begins to talk about animal noises to her group, behind Ty. His attention is caught for a moment, but he does not try to participate in the general responses to Ms. G’s questions about animals.

The circle is dismissed and students return to their seats for a worksheet. Ty must continue to sit at his timeout desk, which faces a wall. Therefore he cannot interact with the other students, nor can he see the teacher as she gives instruction.

10:20 am He puts his head down on the desk while Ms. G instructs the class. After a few minutes of this, Ty sits up and raises his hand. Ms. G comes over, and prompts him to put his

name on his worksheet. He puts his head back down on the desk without writing his name. Ms. G prompts him again, and then again. Ty finally picks up his head and writes his name on the page. Then Ty begins sorting through a shoe-box size container of crayons, picking out and discarding one after another. He begins selecting one after another and placing them on his desk, then some of them start rolling onto the floor. Ty continues looking through the box, pulling out more crayons.

Now there are crayons all over Ty's desk and the floor surrounding his seat, so he gets down on the floor and starts crawling around, retrieving some of them. His teacher, who was busy talking to the teacher's aide, turns and sees what he's doing. "Okay Ty, what are we supposed to be doing? Putting the animals we talked about on the paper." (She doesn't give him a chance to answer the question). Ty sits in his seat.

After Ms. G moves away, he says to the teacher's aide, "Look, I got my Spiderman!" He grins at the aide and holds up a Spiderman action figure. "Okay, that's good, now let's get started on your worksheet," she responds in a positive tone. He asks Ms. G if he can come back to the regular table, instead of sitting facing the wall at the 'timeout' desk. She gives him permission to return to his regular seat with the other students. Ty approaches the aide to request some supplies, and she helps him, then pleasantly asks him to be seated. He goes to the table but does not sit; he stands while cutting out the figures that are to be pasted onto the worksheet. He talks quietly to himself while he does this, but his words are muffled. After a few minutes, Ty stops working and drops to the floor, and he begins rolling around under the table. Ms. G is immediately there, saying, "Ty, get up and let's sort these!" He stands, and she prompts him, "Is this a vehicle or an animal?"

"A sheep," he responds.

"Then where should it go?" Ty points to a spot on the paper, and she helps him place the sheep and glue it on the worksheet.

"That doesn't go here," she says, pointing to something he glued onto the page, "It's okay if you make mistakes as long as you fix it."

10:50 am Ms. G leaves Ty to work on his own and moves to help another child. As Ty continues to work, the aide comes over and gives effusive praise. “Oh, Ty, are you almost finished, how nice! Let me see....show me the next page.....good job!” she exclaims warmly.

It is Ty’s turn to do a computer lesson, and he heads to the back of the room with two other children. The rest of the class has a language arts lesson with Ms. G. Ty does not make it all the way to the computer because he has stopped to talk to someone on the way. Ms. G says, “Ty, Zack, please stop talking and sit down. Get to work.” Ty puts his headphones on and sits down, but he and Zack continue to talk quietly as they start up the computer program. Ms. G stops the language arts lesson to correct the boys again. Ty turns to the computer and starts to work.

11:15 am After about ten minutes at work on the computer, Ty and Zack have stopped working and are talking again. Ms. G yells sharply across the room, “Ty, Zack, you’re off the computer. Let’s go!” The boys stand up, and Ms. G says “Sit down,” (making them join the language arts group, where all the students are seated on the floor in a semi-circle). The Ms. G says to the entire group, “You’re sitting still, eyes are on me.” Ty sits for a moment, then starts inching away from the group on the floor. Ms. G snaps her fingers at Ty quickly, three times, and he moves back into place in the group. He’s sitting directly at Ms. G’s feet, and he begins to participate in the lesson. When Ty looks like he’s losing focus (i.e., begins fidgeting, looking away), Ms. G touches his arm or hand to try to regain his attention.

Ms. G becomes particularly animated at one point in the lesson:

Ms. G: “Does a pencil have a heel?”

Class: “No!”

Ms. G: “That would be...what?”

Class: “Absurd!”

Ms. G: “Say it with me...”

All: “That would be absurd!”

Ms. G: “Does a pencil have a rose on one end?”

Class: “No, that would be absurd!”

Ty laughs along with the others and pays attention, calling out responses along with the class. (This is the most engaged Ty has appeared to be up to this point.) Ty continues to move about a bit while participating, he rocks back and forth and makes contact with Zack’s shoulder, leaning.

Ms. G stops, and says sharply, “*Everyone* show ready!” (Showing ready means to be sitting up with hands folded and eyes on the teacher.) Ty sits up straight on his heels and looks at Ms. G.

11:45 am After the language arts lesson, all of the students return to their seats to do a written exercise related to the lesson on absurdities. The class begins to work quietly, but the noise level rises slowly over the next few minutes. Ty started out working but is now off task, talking to seatmates, standing up and spinning slowly next to his seat, then plays with his box of crayons. Ms. G stops working with a group of students, and tells the whole class that they have earned a time out because one student tattled on another. All of the students are told to put their heads down on their desks. Ty says “Sorry” out loud, even though he is not the one who tattled. Ms. G tells the class sharply that they have lost their recess for the day. Some students say “Awww!” Ms. G says, “Today you’ve really been pushing, and being mean to each other, and tattling. That’s why we’re having no recess.” Her tone is severe as she directs the students to go back and sit down in the circle on the red rug for “a review of the rules of our classroom.” Ty looks subdued, and he and the rest of the children make their way over to the rug for this punishment.

Target child: code name Ronnie, African-American male

Teacher: Mrs. W

8:45 am On the day of this observation, the class is a bit unsettled: there is a substitute teacher, it is the second-to-last week of school, and there is an out-of-the-ordinary music/story lesson about to take place. The substitute has been a student teacher for Mrs. W, the regular teacher, and is familiar with all of the children.

Ronnie stands on his chair, then jumps off on to the floor. He says loudly to his seatmate, “I’m going to take a shower”, and then disappears into the small bathroom located on the far right side of the classroom. When he comes out, he’s talking again, and the substitute teacher says “Zip your lips, Ronnie.” He sits briefly, then gets up again and is wandering back toward the bathroom again when the teacher addresses the whole group, “I’ll wait until you’re all ready!” He sits again, with only half of his body in the chair, his legs and feet splayed out into the aisle. The teacher ignores his body language, and starts the music CD to begin the activity. Ronnie

pays attention at first, but another teacher enters the room through a sliding divider door, and he's immediately looking and listening to the exchange between teachers. He can see the students in the next classroom because the divider is open, and he yells to a friend, "Jamal, come sit next to me!" His teacher says, "Shhhh!" loudly.

The teacher puts the CD on pause, and some of the children from the next classroom come in to join the lesson. A boy sits next to Ronnie, and asks him "You want a sticker?" in a stage-whisper, probably because the teacher is asking for quiet frequently, saying "Shhh" to remind everyone. The music and story begins again, and Ronnie drums his hands excitedly on the table in time to the music. Then he sits still for a time, paying attention. Two female students enter the room, and Ronnie is again off task, whispering to one of the girls. Ronnie's whispering can't be heard, but one of the girls responds to Ronnie by approaching him and whispering back.

9:25 am Ronnie's attention is soon drawn in by the story again, which is very engaging. He fidgets frequently with his hands and sleeves, playing with his cuffs and buttons, but he also appears to listen intently.

After a time, the teacher from next door comes in again, and Ronnie's head whips around to see what's going on. She looks around for a minute, and then leaves again. He turns his attention to the lesson, but allows his head to slowly fall backward so that he can no longer see the instructor who is holding up a picture book to accompany the music and story playing on the CD. He rolls his head around to one side, then turns around completely in his seat, so he's facing backwards, looking at the teacher's aide who's sitting in the back of the room. He begins drumming on the back of his seat, apparently losing interest in the class activity. He bites his fingers and motions to his seatmate to be quiet by putting his finger to his lips. He continues to be quite active while remaining in his seat – he moves his legs, plays with his clothing and the buttons on his shirt, and fumbles with the laces on his shoes. He seems to be able to keep himself contained enough to escape correction; he doesn't get overly loud or get caught out of his seat.

10:00 am The story and music end, and the class is given a worksheet to complete. While the teacher is passing out the papers, Ronnie leans far forward onto his table for a moment. He then begins moving about rapidly in his chair, rolling his head around, then shaking it back and

forth quickly. He is bouncing in his seat and shaking his shoulders in a kind of dance. The teacher gives a general direction to the class, “All right guys, we’re back to work.” Ronnie sits still for a moment, then begins wriggling around again, leans on his seatmate for a moment, is ignored. He then begins to poke at his seatmate’s arm with a finger, grinning. The boy ignores the poking, but moves away some in his seat. Ronnie begins to play with the crayon box on the table, and shows no sign of getting to work. The teacher comes past and does not say anything, but she closes the crayon box and pushes it away from Ronnie. Ronnie sits in his seat, moving and wiggling a bit. He gets his crayons out again, even though the task at hand does not involve coloring. While playing with the crayons and wriggling around, he is able to remain compliant enough (i.e., quiet, not out of his seat) to escape correction. He begins folding and unfolding his worksheet, then he starts to color on it. He colors enthusiastically for some time.

10:30 am Ronnie has completed his worksheet despite being frequently up and down in his seat, playing with the crayons and scissors, and talking to his classmates. As the task winds down, the general noise level in the room begins to pick up. Ronnie looks up at the ceiling for a moment, leaning back in his seat. He begins clapping, and then stands up and does a little dance. The boy sitting next to him jumps up and does the same, and then the teacher looks at them both and says “Sit!” They both sit, but the rest of the class is also losing focus, becoming louder, and children are moving about. Ronnie stands up again, and jumps up and down next to his seat. “Let’s quiet down”, the teacher says in a neutral tone. Ronnie kneels in his chair, leans way across the table and begins playing with the crayons again. A few minutes later, the students are getting ready and lining up for lunch, noisily.

Target child: code name George, Caucasian male

Teacher: Ms. G

10:00 am On a Friday morning, Ms. G’s kindergarten class is working individually on academic tasks that are left undone at the end of the week. As the observation begins, George is working steadily at his table. He fidgets a little as he works, playing with the crayons, shuffling his papers, but he continues to make progress on his work as well. He talks to his seatmate, another boy, on occasion, and both continue their work. Ms. G says, “George, I need you to move over one seat”, (to make way for a group activity at the end of the table). Ms. G begins the

activity, but George does not move over. In fact, he begins to call out answers occasionally, even though he is not part of the group activity. Ms. G does not reprimand him, however.

George also talks to himself while he works, and scratches his arms. He stands up for part of the time while he works, then sits to shuffle through his papers. He then sorts through the crayon box for a few minutes. He gets up and moves to another seat across the room, and sets down some of his papers there. Then he comes back to sit where the group activity is taking place. George and his seatmate continue talking occasionally, but both also continue to do their worksheets. George sits on the edge of his chair and twists around in his seat, holding up a big piece of paper that has his art project on it. (It is unclear who he's showing this to.)

10:40 am Ms. G is calling children to her one by one to check their work before they sit down on the red carpet for circle time. George stands patiently by his seat waiting to be called. Ms. G asks George to help the other two children at his table gather up their work. He does so, and then she says, "George, you may go and sit on the carpet." He heads over to the carpet and sits. George moves about a bit on the floor, wriggling and laughing quietly with another child, but he remains seated. When Ms. G sits down with the language arts group, he focuses on her and appears to be attending to the lesson. He raises his hand frequently to be called on, but he also fidgets and moves about some. He calls out an answer without raising his hand, but Ms. G responds to him without correcting him

George apparently continues to be on task in the reading group, even though he alternately wiggles in place, fidgets with his fingers, shakes his head back and forth, and rocks from side to side. He answers along during the lesson with the other children when group responses are asked for. Ms. G stops the lesson to correct two boys who are talking together, and George waits patiently for the lesson to resume, watching the exchange with the boys who are being reprimanded.

11:10 am The reading group is dismissed, and the students are asked to go back to their seats to do a worksheet related to the reading lesson they just had. George returns to his seat, and begins writing on his plastic crayon box with a crayon. Then he stands up in his seat, and

leans across the table, because a boy next to him is blocking his view of the teacher. Then he sits back on his heels in the chair. After the teacher is done giving instructions, George gets up and approaches her. “Ms. G, I’m sleepy.”

“Didn’t you get enough sleep last night?” she asks sympathetically.

“No,” he sighs.

“Okay, go back and sit in your chair.”

He falls on the floor at her feet, and she looks at me and laughs. Ms. G tells George again, mildly, to go back to his seat. He goes to his chair, and drags it back to sit next to Ms. G. She ignores his disobedience, but does not engage him either.

11:30 am [George is called out of the room by an aide to go to speech therapy, and he does not return during the morning observation period.]

QUALITATIVE DATA PART II TEACHER INTERVIEWS

Taped interviews were conducted with the kindergarten teachers to capture their thoughts on the active children in their classrooms. Some standard probes were developed for the interviews but the goal was to get the teachers to talk freely about each active student and their relationships with the students.

1. Interview with Mrs. D

[Before the researcher could even begin asking questions, Mrs. D launched into a long narrative about the child of interest, indicating that she knew exactly who was being observed in her classroom.]

Mrs. D: Manny has poor self-management, and he has to constantly be directed. I am really trying hard not to give him a third check (part of a token system for managing behavior) because he would miss the Zoo trip tomorrow. I ask myself constantly, how can I teach him more actively so that his activity won’t be a problem? He’s probably gifted – he really thinks outside of the box – he’s so smart in some areas! Not in math, though. Retention, his verbal skills, sequencing are all great. He approaches things in such a unique way! When we’re doing something he likes, he’s great. I really don’t think he has an attention problem; I would never

refer him out for that. I've talked to Manny's Mother, she knows all about it. He does fabulously in reading group, but if you take your eyes off of him for a second he's off task again. He comes off the computer to get in the mix and interact with the other children.

How has Manny's behavior changed over the school year?

Behaviorally he's hanging on by a thread. He's so close to losing this zoo trip, but I *really* don't want to see him miss it. But it has been like this all year, definitely. No real change.

What's your strategy for dealing with this kind of behavior?

What I do try to do is use less obvious kinds of intervention, if possible. So, sometimes when he's off task just a touch on the arm, or moving near him while I'm doing a lesson, or even making a comment to the whole group instead of singling out one or two who are not on task. Sometimes it works, sometimes I have to be more severe.....

These children are just such babies. They come in here so sweet. You know, there's such diversity among these children and it just doesn't even faze them. They don't see color, or social class, they all get along so well, it's wonderful. But then I see them when they've gotten to the middle school (I've been teaching here for 7 years) and they're just different kids. It's like night and day. And I wonder what kind of a chance they'll have in life, coming from this area. I would like to hope they do, you know...but the economics of this town....what Uptown *really* needs is some economic stimulus to get it going. People really don't have a secure future here like they did when the plants were open. I'd like to see Manny do really well, and of course all the other students too, but I just wonder what percentage of them will really have a chance in life.

Prompt: Have you always taught children of about the same age, same income level?

No, no – not at all. I've taught everything, up to 10th grade. I taught on a military base, I taught children on the Merck Unit at Western Psych. I started out as a Special Education teacher. I think you need a Special Ed background to teach kindergarten. Primarily because of the range of

abilities here, and many people don't realize that gifted children are considered Special Ed too. So, no, I haven't always been in an urban school district.

Prompt: Do you like working here, and with this grade level?

I *love* the Uptown school district, I love teaching here! I'm not planning on changing jobs. These children are wonderful. I'm planning a little graduation ceremony for them, you should come! (Gives me a flyer about the "Kindergarten Promotion Ceremony", talks about the details of this for some time before excusing herself to leave for home.)

2. Interview with Ms. G

Let's start with Jessie; what do you see with Jessie typically?

Sometimes it's a lot of oppositional behavior: 'I'm going to do this because you want me to do something else'. Positive praise works to a point. Working for stickers works to a point. Attention-seeking behaviors. I know there are other things going on in her home life that also affect that. I notice there is a pattern between what's going on at home, people in and out, as her behaviors in class escalate and decline again.

So she has good days and bad days?

There are good days and bad days. There are days where talking to the principal, even calling home doesn't faze her. But there is definitely something more going on with what we're seeing in the classroom.

So she's not just active, you see her as being defiant, or really challenging you?

Yes. At different times, yes.

Can you give me an example of some of the more extreme things?

I talked to the guidance counselor here and she said whenever she refuses to follow the directions or complete a task or go to timeout, to place her in the corner and leave her there. Well, she will be in the corner screaming and crying and kicking, and she'll fall on the floor and roll around, and then she'll scream out of the corner and then she'll leave the corner, and you have to take her back to the corner...

So she disrupts the whole class and your teaching?

Yes. There are different things: like you ask her to sit down and she'll give a *look* - and it's a look that says I'm not doing it because you asked me to. She openly laughs in my face sometimes when I correct her...

So you think that it's coming from...

I don't know what it's coming from. I think that there is a link between that and her home life – they have moved a couple of times, a dad who is in and out saying he's coming back, not coming back. I don't know if it's the relationship between the parents though. I think there are other circumstances preventing him from being in the state.

Can you remember what you thought of her the first couple of weeks of school?

The first day of school I thought she was as cute as a button, and I still think she's very cute. I think she's really intelligent, I do think she's on the ball. The first instance – I'm trying to think back to the first outburst, the first misbehavior...the first feeling I got of 'I'm not doing what you're telling me to do and ha! in your face'. My aide is her cousin so that helped me learn about the family background. She said she has this disposition where sometimes she's happy and sometimes she's just downright mean; but she's always been like that ever since she was born. And I try not to listen to that because some of it is her perception of it too, and I want to give her a fair shake but what she said carried through. I find that sometimes when I do have to

correct her I try to forget about it right away because she carries that with her and you can tell like she's not used to people who let it go and accept her back? But I always try like when I correct her to give her some kind of positive to get her back in. She wants to help and she wants to please but when things aren't her way that's when it really just goes out the window.

So she has tantrums?

Yes, pretty much.

And did you think she changed at all as the year went on?

Definitely, she has gotten worse. Behaviors did get worse as the year went on. They got a lot better for awhile then started to get worse again. And then they have gotten better. I don't know if it's just the cycle throughout the year but it does seem to coincide with the dad coming back and leaving, being gone. And when he does call in she seems to cycle back to being better.

Do you think maybe at the beginning of the year you didn't see it as much because, what? Maybe she hadn't settled in.....or wasn't comfortable, or how do you think it might be explained?

It may be comfort level. It definitely could be. She also has a cousin in the classroom and there were just different things between the two adults (Jessie's Mom and the cousin's Mother) as they do live together. I think that there were different things they brought into the classroom between themselves and the pattern just continued.

Who is her cousin?

Avie. So I try to separate them in the room as much as possible and put other kids between them so they got to be themselves without one controlling the other. But at different points in time that even escalated between the two of them – hitting and pushing and just different things. At the beginning of the year she and Avie lived together then they moved out on their own and now

they're back living together again. So I think that affects the behavior because as they went in and out, dads went in and out, and different people in the two households went in and out.

So there's a lot of shakeup in her family.

Yes, a lot of shakeup.

Peyton is another boy that I wanted to ask you about. Tell me what you think about him this year.

With Peyton I'm really not sure. I know that he's on the ball, I know that he gets his work finished. I know that he usually conforms and follows the rules. I'm not really sure what's going on there. I noticed at different times, like circle time or reading, he'll be on task and then he'll try to do something sly on the side like talk to his friends or grab a pencil out of someone's hand, things like that. It took a while but I have caught on to that and I've tried to correct that with the classroom behavior plan, or taking the stars away or different timeouts or moving their chairs around and different things. I don't know what's going on there.

Do you think it's a behavior problem or just typical kindergarten behavior?

I think a lot of it is typical kindergarten behaviors. Some days I'll see him really fidget around all day and the next day he's calm.

Is he pretty compliant?

Yes, he's not a kid that if you say this is the way it is, he's not going to go against it. I think that's why when I say you have to do your work now, and even if he wants to talk to his friend, he does his work and as soon as I turn away, he'll try to talk to his friend.

So for him at the beginning of the year you didn't really see this, it took awhile for that to come out?

Yes, it took awhile for it to come out. I think especially at the beginning of the year they usually don't act like themselves until later on in the year and they feel comfortable. Just like anyone going anywhere. I don't feel very comfortable going into a new situation either. And I kind of hold back.

Now, what about Ty?

Mmmm, I just can't figure out what's going on there, I just don't know. I've tried, I was told at the beginning of the year that the best thing with him was going to be lots of physical closeness and touch to help him stay on task.....

What do you mean by that, exactly?

Like helping him stay on task by having him sit close to me, a touch on the arm to remind him to pay attention, I even hold him his hand through the whole reading group sometimes, when I can. But I don't think it has helped much at all.

Okay – I'm sorry, you were telling me about how you started the year with him.

Yeah, well I have tried everything with him, plenty of physical contact, I use timeout a lot, but I mean you've seen his behavior, he just can't remain focused. I don't know what to say about him really. He has been sent to the principal's office, I've talked to his Mom a lot, she knows. I wonder if there are things going on at home too. I just don't know.

Any trends, his behavior improving or getting worse, since the beginning of the year?

His behavior has definitely gotten worse throughout the year – I knew pretty much right away that he was going to be a difficult one. He has also been one to have better periods and worse times, but I can't say that I've seen any improvement over the year. Definitely the opposite.

That's interesting because I think initially I believed that as the students were socialized to the classroom rules, over the year they'd get better. Have you seen that with some of the kids?

I've seen a lot of the kids get better. I've seen a lot of the kids get worse. And I've seen a lot just kind of stay in the middle or it depends on the day or the mood or what happened last night at home. I think that really affects our students.

Okay I have one more child to ask you about...George.

Again, at the beginning of the year...I taught his sister also so I knew his family a little bit from before. Beginning of the year, he came in, wants to follow the rules sometimes, is fidgety, up and down. Gets very excited about learning and wants to please and wants to have the best work. And when you look at a lot of the students you see they do the work because you tell them to. And with George at different times I'll see him doing the work because I told him to but also because he's interested in the work. He brings his own learning experience also.

I thought he was a more active child. But I wanted to know if you think it's behavior-problem active or more typical 5-year-old energy?

I wouldn't say behavior-problem active, more typical active. At different points in time, just fidgeting – needing to be up and down, moving about. And that is very typical at this point, I mean I feel it's typical. And I think if the kid needs to stand up and do his paper then by all means, stand up. As long as it's not disruptive to others. I haven't seen him roll on the floor or anything. When redirected, he definitely comes back right away. Not like Jessie who disappeared into the bathroom for 10 minutes....You find that is common with a lot of the students who go to the bathroom. I mean it takes them awhile.

Can you remember what he was like at the beginning of the year?

George came in shy and as the year went on he started to talk more. I would say within the last month, month and a half he got real excited, talking more to the students, even talking out where I've had to redirect that a couple times. At the beginning of the year there were some family things he went through. Also at the beginning he started a speech program because it was very difficult to understand what he was saying. I don't know if I got accustomed to the sounds or the

way he pronounces his words but I definitely feel that there is an improvement in his speech too. So I think that is building confidence within him. Sometimes when he talks or we sings songs he is louder than the other kids and I think a lot of that might relate to his speech – just articulating and hearing the different sounds and trying to get it right - it just comes out louder.

The highest activity kids, from my observations, I identified seven active kids and four of them were in your room. So you really got a different group dropped on you this year – many of the highest activity students.

It all depends. Being high active, I mean I think I'm a high active person. When we were talking, I had to fidget and play with my ring.... So just being active, I don't think disrupts education. It's when those activities stop others from learning. Rolling around on the floor, kicking and screaming, that's when it becomes a problem. Just being able to move about, being able to exert their energy, helps them to focus more on the task at hand or redirect themselves.

One thing I noticed in all of your kindergarten classrooms that I thought might be hard for a kindergartner is that it seems very academic in the morning. Recess, lunch, all of the fun stuff happens later. Do you think it would be easier to manage them if some of that activity was mixed in the morning?

We don't really get to pick our schedules, it's given to us. But we have had in years past, (wasn't it math after lunch?) I think it was math, and getting them back on task after lunch to do math was a hundred times worse. Even though it's math, it's structured activity. You have to get your academics in during the morning. Even when we are observed by JP, like they'll switch language to the last thing of the day. By that point I could keep the kids attending for two minutes then they are all on the floor, even the ones who aren't usually on the floor. I feel that it works out that when they first come in they are bright-eyed and bushy-tailed and ready for reading, math and language. Get them through that and then let them relax with recess and lunch. The sciences and social studies are usually working on something like fine motor skills or trying to create something or to read a story so there is a little leeway to let them be more active.

I think there are cases where you need to say this isn't working, we need to take a little break from what we're doing. Let them stretch, walk around, get a drink – especially at the beginning of the year in kindergarten when they first come in - out of nowhere we will just stop. You know when you lose them. I would assume at any grade level you know when you lose them that it's time to switch gears, do something else, and then come back.

Like I had one student at the beginning of the year who needed 10 minutes that he needed to go out somewhere else. With that particular case that is what we did, that's what we worked in and then we gradually scaffolded it off. But with a whole classroom and everyone, I don't see how you could possibly manage it and still be effective with your teaching. And there are different times where we'll have an assembly or something and we'll let them play for awhile to get that energy out. Sometimes you just have to stop and let them get a little energy out but overall having that big break in the day just gets them off task everywhere and its harder to bring them back.

When you were training to be a teacher, is this the grade level and environment that you envisioned yourself teaching in?

Yes, actually I always wanted to be a kindergarten teacher and that's my goal in life, so it's bittersweet that I'm going to second grade. But I student-taught first grade so I've always had a soft spot for the early elementary grades. My first teaching job in Maryland was full-day kindergarten and I loved it. When I came back to Pennsylvania I taught seventh and eighth grades so I had middle school experience. I know there are people who are made to be middle school teachers but in my heart I want to teach the little ones. Seeing the growth within them, they learn so fast and they are so thirsty for learning.

QUALITATIVE DATA
PART III
CONSULTANT INTERVIEWS

A. Interview with Dr. Meredith Cohen

Dr. Cohen is a co-investigator on the CARE Project. She worked in the Uptown kindergarten classrooms extensively throughout the 2005 school year, providing support as part of the CARE project. While there, she got to know some of the children in this study quite well.

Tell me what you know about Manny and his relationship with Mrs. D?

Well, he's a challenging child. He's quite smart, and Mrs. D. knows that, I think. However, he's very active and has trouble controlling his impulses, and that's hard for her to deal with, because she's just inflexible. And her classroom reflects that: it is so highly structured. This was probably just a poor fit, and really not ideal for Manny.

Mrs. D. is very concerned about appearances, and about presenting herself as this perfect, middle-class, model teacher. I always thought she was very conscious of us, of our presence in her classroom, and what we were looking for while we were there. She probably treated Manny differently when we weren't there. And even when we were there, the way she treated him was certainly not ideal, she really set him up to fail quite often.

Did you witness any disciplinary events with Manny while you were there?

Yes, for example, he was *constantly* in time-out, and for really *loong* periods of time, too. And that's just not going to contain an active kid. He was allowed to sit there on the sidelines and watch an activity going on, but not allowed to interact with the other children or participate. And it was for like 25 or 30 minutes, sometimes, not developmentally appropriate at all, and of course he's going to get up or do something and get into more trouble! This was just not the right approach.

Mrs. D. talked about him positively too, saying she recognized that he was smart, calling him her poor baby. But again, wanting everyone to believe she's the ideal teacher.

How did you think he changed over the year, if at all?

I thought over time, he became a lot more calm and less challenging to manage. I really saw him as a malleable student – he would work hard and stay on task for rewards with me. I think he had the tools to do quite well in school, with the right teacher.

And how about Jessie and Ms. G? We talked about how Ms. G. struggled with her.

Yes, but I think Ms. G. really endowed Jessie's behaviors with much more malice than she (Jessie) actually intended. One time she was coloring very enthusiastically, and she went off the paper and onto the table with the crayons. And Ms. G singled her out and really embarrassed her, yelled at her, and said, "You clean that up this minute!" and brought her a wet cloth, and the poor girl was just taken aback by Ms. G's anger. As anyone would have been, it seemed very inappropriate to the offense. It seems like Ms. G *elicited* defiant behavior from her. Jessie is very social, but when Ms. G pushed her, she would kind of shut down, and would make faces, and that made Ms. G. *really* mad. What she should have done was just ignored Jessie's pouty faces, and let it go, but it seemed like she really had it in for her. It was a coercive relationship that fed on itself, because Jessie would do something, then Ms. G would punish her, then Jessie would react, then Ms. G would become even angrier, and so on.

How did Ms. G manage behavior in general?

I remember once Ms. G was yelling at the entire class, (they had come back from the gym and she got a negative report of their behavior), so she was admonishing them and telling them they needed to behave, and so on. Well, Jessie smiled or giggled at something, not being defiant but she just hadn't quite got calmed down yet, and Amy screamed at her, and put her in the corner. Her timeouts were always in the corner, I saw more than one child crying in that corner over the year. She also used this annoying voice to shape behavior, it was a sing-song voice that was easy for the kids to disregard and it had *no* effect on their behavior, a badly chosen strategy. It was

like she just didn't get it (behavior management). She attributes malicious intentions to normal kindergarten impulsiveness.

I worked with Jessie myself, and one-on-one she was a pleasant kid, she was bright, there was no reason for her to have a hard year in kindergarten, other than that her personality just really seemed to rub Ms. G the wrong way. I remember on many occasions, Ms. G would select the children to get in line for lunch or for recess based on their behavior (sitting quietly, hands folded) and she always left Jessie among one of the last ones picked, no matter how well she was behaving.

Can you tell me about Ms. G and Ty?

He is a very needy child, he really seemed to want closeness and attention, and he would play for any little bits of attention he could get from any adults visiting or helping out in the classroom. I never had any trouble getting him to focus or stay on task when I worked with him, but he was so active and Ms. G just couldn't manage him well. You know he really did want to please. But Ms. G, who is also a needy person, was a truly poor fit for Ty. I think the kids in her class in general who were needy really got the shaft. She had no patience for those kids.

And did you see any disciplinary events with Ty?

The punishments in Ms. G's kindergarten were cruel, in my opinion, between being put in the corner, and having privileges taken away (but the children who missed out had to watch the others enjoying whatever it was). Ty got sent to the principal's office more than once while I was there, he was even sent home for behavioral reasons a couple of times, which seemed excessive. For talking back, it wasn't like he had a knife or anything! Ms. G told me once, "He had a bad day, and he talked back, so he got sent home."

Another time, Ty was returning from one of his special pull-out classes, and he came back kind of slowly – he stopped to go to the bathroom – and she (Ms. G) absolutely *screamed* at him, it was really excessive. This was another case of her attributing spiteful intentions to just normal, kindergarten impulsiveness. She did not have an understanding of their developmental level.

How about the relationship between Mrs. W and Ronnie?

I really didn't spend a lot of time with Ronnie, so I can't tell you a great deal about his behavior, specifically. But, I can tell you about Mrs. W's approach, and how I thought she could have really helped some of these active children we're talking about if she had been their teacher. Ty especially would have done best with her, I think.

Mrs. W was very accepting of all of the children. She didn't try to over-control them. Her attitude was, "We're all in this together." She is a mother of two boys herself, you know, and that might have something to do with how accepting she is of more active children. She was just more tolerant of all that five-year-old energy, as long as the students were respectful of each other.

What do you think of the idea of ethnic match playing a role in how well Mrs. W's children did in her class?

I think the ethnic match is probably *helpful*, but not necessary. Everyone seemed to do well in her class, girls, boys, regardless of ethnicity. Her students just seemed to blossom over the year, and that certainly can't be said for some of the children in the other classes.

Did you see much interaction between Ms. G and Peyton?

I didn't spend a lot of time with Peyton, so I don't have a lot to tell you, but in my opinion he was an active child but he was very willing to work with you. He was pleasant, compliant all of the times that I saw him. He was on the ball, but he wanted to talk in class more than Ms. G would have liked. He wasn't as motivated as some of the others, but he certainly wasn't a problem kid. But again, Ms. G would roll her eyes at him, make faces (to me, about him) behind his back, like she did with many of her students.

Unlike how she was with George, he was her golden boy. He never got on her bad side even though he was also active. He was willing to work, and he had preschool experience, and it

showed. He took pride in his work, he was very motivated. He was never in trouble, and he was praised *plenty*. She did praise some of the other children, but not very frequently.

I think this was about teacher/child fit more than gender or anything else. Ms. G. really missed some opportunities to have good relationships and a positive effect on some children who could have benefited from a good kindergarten experience. It was her personality, you know, she had some personal problems, and I think she felt like she had no spare energy for those students that really needed her. I think it's actually a good thing that she's not going to be teaching kindergarten any more.

B. Interview with Dr. Joan Vondra

Dr. Vondra is the P.I. on the CARE Project. She worked in the Uptown kindergarten classrooms extensively throughout the 2004-2005 school years, working with students, teachers and parents associated with the kindergarten through second grade classrooms.

Tell me about Mrs. W's student, Ronnie, and the relationship there.

I have mixed understanding with Ronnie because I remember at one point thinking he was not as well behaved as some of the other boys. I think in general that might be true but at the end of the school year I wasn't picking up on that. He seemed well behaved at the end of the school year. So I have mixed thoughts on Ronnie. If you ask Mrs. W, I would guess she would say "Oh, he had some little issues with this and that but then we worked them all out." She tends to make things smooth and positive. I think it's Ronnie, or was it Nate, darn. One of those two boys she talked about really wanting to be part of the group and not really making it. I can't remember which one it was, I'm so sorry. Mick is the big boss in that classroom. He's the one who's "it" as far as most of the kids are concerned. He's very competent and just a leader. Everyone wanted to be in with Mick and I think either Ronnie or Noah or maybe both of them were on the fringes of that group. Ed is his own guy and Mick was fine. Who else might have been in? Not Danny, not Jason because the white kids were always a little bit peripheral. I definitely had mixed thoughts about Ronnie while I was there. Some of the kids in the class, you would just get to know them better and Ronnie was not one of those kids. He was not one of those kids who

was always asking for attention from me and so forth, so my guess is he was a little less adult-oriented than other kids in that class.

Did you ever see any disciplinary events like something taken away or...?

Nothing that stood out in my mind. She never struck me as being very harsh with any one particular kid. It would be directed more to the class, she might be real strict with the class and then all of them would get corrections; but I didn't see him as being picked on in any way. I don't think she picked on any of the boys for sure. I remember we did a video tape and I remember the girls standing next to her...she was a harder teacher cause she didn't want to just jump over and do cutesy things with the kids on the video. So she stayed where she was and I'd say why don't you go over and stand by your teacher and I'd ask them little questions and I think it was Ronnie who when he went over he hugged her. And then the other boys just did it also except there were boys who did not hug her. Ed did not hug her. I think Ronnie was one of the kids who spontaneously hugged her. And she loved that, oh boy, she ate that up.

Ronnie was one of the more active kids in her class. Just thinking about the more active kids in her class, do you think she treated the active kids any differently?

I'm going to say no. She didn't single kids out. I just don't remember her singling kids out. She was very different from, for example, Ms. G. You know, with her (Ms. G) anyone could be the target of criticism and the class as a whole certainly was. But she (Mrs. W) sort of enjoyed her kids. So no, I don't feel that she targeted kids who were more active. She hated being interrupted, I know that.

Yes, and lack of respect. When children called other children names, I saw people getting those little red stoplights. That seemed to be one of her peeves, the respect thing.

No, I never saw that.

Did you think she allowed some activity, a little bit of noise in her class?

Yeah, she said to me – straight out – I’m an old-fashioned kindergarten teacher. We have things we’re supposed to do but I put in recess time and I put in “heads down on the table” time because I just think kids need those things. She knew their needs.

Now we’re moving on to Ms. G. We’re going to talk about Ms. G and Peyton.

Oh, that’s going to be very tough. I saw so little between her and kids who were causing trouble. She gave so...she would randomly say oh I like the way so-and-so is sitting. And I know she would correct Peyton. But she picked on some of the kids and I don’t remember her really picking on Peyton more than other kids. She picked on Jessie terribly, I thought. She wasn’t crazy about Ty but she seemed to tolerate him over time. I don’t know what that was about. Maybe because he was in the CARE Project, they kind of worked out something but I think Rakeem, Mario and Jessie in the beginning – Mario moved - but those three, oh my gosh she saw them as the hellions of the earth. Jessie – she would ask me things about her because Jessie bothered her so much. With the other kids I don’t think she took it as personally. So Peyton, he’d get corrected for not doing this or that and the others would too. But I didn’t see her picking on Peyton like she did other kids.

She felt that Jessie was a real behavior problem. I saw a lot of active behavior but not behavior problem...

Yeah, she saw Jessie as having a big attitude. She said to me “I told Jessie you’re not getting any candy and she looked me right in the eye and said ‘I don’t care’. And that *really* infuriated her, that the punishment wasn’t making a big impression on Jessie’s attitude. I saw that she picked on Jessie, and I saw her disciplined frequently, principal’s office sometimes, isolated in timeout at other times. Ms. G would take away treats from Jessie too.

And how about Ty?

Well, she definitely had a problem with Ty too – but I think she tolerated him more over time. But earlier in the year I did see him get isolated, put in the corner, and there were several times when he was sent to the principal’s office, the principal was involved with him a *lot*. Mr. M [the principal] met with Ty’s mother once or twice too. And he was sent home [suspended] at least once that I know of. But again, his teacher did seem to become more able to manage him later in the year.

Did you see any interaction with George and Ms. G?

Yes, I think they had a pretty good relationship. He’s an active boy but he’s also really smart, and I think she liked him. I never saw him get in trouble. But you know, even George, who was so sharp and so motivated in class, she just rated him “average” in academics on the CBCL! So I’d say he probably had a decent year in kindergarten, but it was also a missed opportunity.

Let’s talk about Manny and Mrs. D. What was that relationship like?

Oh, poor Manny. I saw him get dragged down to the Principal’s office several times. And on this particular occasion I was there in the office, and she said, “He bit someone, did you see it?” And I hadn’t seen it, but obviously she wasn’t sure if he really had bitten somebody. But he was sent home anyway, based on what another kindergartener said. I think she just didn’t like him. And she may have had a race issue, I’m not certain of that but it could have been part of it. But she definitely thought of him as a problem in the classroom. He was always being kicked out of class, sent out in the hallway for timeout.

She even asked me what I thought she should do about him, because she just wasn’t managing it successfully. I also remember saying to her - because I anticipated that he would grow tired of being given time-out all the time...so I said you know, do you have another idea for another reinforcer for him? She saw me as the expert, I played right into her wanting me to take that expert role with her. On the one hand she denied what I was saying, but then I would find that she was doing something differently with him and calling him something different. I remember distinctly seeing him, before I talked with her, having these timeouts in the hall. It wasn’t even

in the classroom, it was out in the hall. And I remember saying “I think he finds school very punishing.” So she knew I disapproved of how much she was punishing him. I was trying to keep it away from personalizing, trying to say it in a very constructive way. But she got very defensive about it, but did apparently start to do some things with him. She bothered to tell me what she was doing and I would say oh, that was great. She had this whole thing about she absolutely could not contact his mother because his mother’s mother had died. Father even came to the African-American Feast Day, that’s in January, and that was it. Once she decided she wasn’t going to call mom she would never call. That was it, he (Manny) was off her list. It was almost like she was looking for that excuse and once that excuse came, she never contacted that family. So it was just a mess; that relationship with Manny was kind of a mess. So I don’t know – I think maybe she worked on it a little bit in the classroom over time and did a little better with him. I don’t remember him sitting out in the end the way he used to - so that’s about it.

She gave me the same kind of line about him when I interviewed her about Manny, how he was a creative thinker....

Yeah, see that’s not – I mean it wasn’t until when I started saying that I saw him as somebody who was bright that I think she started talking about some bright things. Like she used that lead to start describing him....

Yes, gifted.

Now she had told me that his mother’s sister, his aunt, had been gifted - when she was doing the gifted classes. So she kind of – maybe she expected stuff from him and didn’t get it. And then maybe she went way too far the other way, and when I started talking with her she started saying maybe he is gifted in fact. So that might be what happened cause I remember early on she told me that the aunt had been in her gifted class when she was teaching them. So I think there was just something that went very badly wrong with that relationship, right from the beginning of school.

And I wonder how he (Manny) feels about it – I mean, if she changed towards him at the end of the year or she just behaved differently when we (CARE staff) were around.

I doubt that she changed a whole lot toward him. If she changed, it might just have been to be somewhat less punishing. I'm not sure that he experienced it. I'm not sure that he experienced any kind of nice relationship with her.

I saw her on one of the last days of school when I wasn't observing in her class so there was probably no motivation for her to do this other than that she just wanted to do it...she came into Mrs. W's class and they were all watching videos and said 'Manny brought this video today; he's very excited about watching it! Can we watch this video that Manny brought?'" (instead of whatever they were watching at the time).

But she always was presenting herself to the other teachers as so caring of the children. That was so important to her, to have that façade of the perfect, middle class, caring, personalizing teacher. She could put on a wonderful show; and I never saw her light into any of the children. I certainly saw the children out in the hall for long periods, and I just felt uncomfortable dealing with her myself. So did (Dr. Cohen).

--End--

REFERENCES

- Achenbach, T. M. (1991). *Manual for the Teacher's Report Form and 1991 Profile*. Burlington, VT: University of Vermont, Department of Psychiatry.
- Achenbach, T. M., & Edelbrock, C. S. (1983). *Manual for the Child Behavior Checklist and the Revised Child Behavior Profile*. Burlington, VT: University of Vermont.
- Ackerman, B.P., Izard, C.E., Schoff, K., Youngstrom, E.A., & Kogos, J. (1999). Contextual risk, caregiver emotionality, and the problem behaviors of six- and seven-year-old children from economically disadvantaged families. *Child Development, 70*(6), 1415-1427.
- Alexander, K.L., & Entwisle, D.R. (1988). Achievement in the first 2 years of school: Patterns and processes. *Monographs of the Society for Research in Child Development, 53*(2), Serial No. 218.
- Anderson, R., Manoogian, S.T., & Reznick, J.S. (1976). The undermining and enhancing of intrinsic motivation in preschool children. *Journal of Personality and Social Psychology, 14*, 117-124.
- Birch, S.H., & Ladd, G.W. (1997). The teacher-child relationship and children's early school adjustment. *Journal of School Psychology, 35*, 61-79.
- Birch, S.H., & Ladd, G.W. (1998). Children's interpersonal behaviors and the teacher-child relationship. *Developmental Psychology, 34*(5), 934-946.
- Brody, G., Murry, V., Kim, S., & Brown, A. (2002). Longitudinal pathways to competence and psychological adjustment among African American children living in rural single-parent households. *Child Development, 73*, 1505-1516.
- Campbell, M. (2005). Minority teachers urgently needed. *The Hispanic Outlook in Higher Education, 15*(16), 26.
- Campbell, S.B., Pierce, E.W., Moore, G., Marakovitz, S., & Newby, K. (1996). Boys' externalizing problems at elementary school age: Pathways from early behavioral problems, maternal control, and family stress. *Development and Psychopathology, 8*(4), 701-719.
- Cicchetti, D., Rogosch, F.A., Lynch, M., & Holt, K.D. (1993). Resilience in maltreated children: Processes leading to adaptive outcome. *Development and Psychopathology, 5*(4), 629-647.

Childs, G., & McKay, M. (2001). Boys starting school disadvantaged: Implications from teachers' ratings of behavior and achievement in the first two years. *British Journal of Educational Psychology*, 71, 303-313.

Clark, L.A., Kochanska, G., and Ready, R. (2000). Mothers' personality and its interaction with child temperament as predictors of parenting behavior. *Journal of Personality and Social Psychology*, 79, 274-285.

Conger, R. Patterson, G., and Ge, X. (1995). It takes two to replicate: A mediational model for the impact of parents' stress on adolescent adjustment. *Child Development*, 66, 80-97.

Comer, J. P. (1988). Educating poor minority children. *Scientific American*, 259(5), 42-48.

Conlin, M. (2003). The new gender gap: From kindergarten to grad school, boys are becoming the second sex. *Business Week*, May 26.

Coopersmith, S. & Feldman, R. (1974). Fostering a positive self concept and high self-esteem in the classroom. In R. H. Coop & K. White (Eds.), *Psychological concepts in the classroom*, 192-225. New York: Harper and Row.

Cowen, E.L., Wyman, P.A., Work, W.C., Kim, J.Y., Fagen, D.B., & Magnus, K.B. (1997). Follow-up study of young stress-affected and stress-resilient urban children. *Development and Psychopathology*, 9, 565-577.

Daniels, M.C. (1984). Influences on black students' aspirations according to race of teacher. *School Social Work Journal*, 9(1), 55-65.

Deci, E.L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, 18, 105-115.

Deci, E.L., Cascio, W.F., & Krusell, J. (1973). Sex differences, verbal reinforcement, and intrinsic motivation. Paper presented at the annual meeting of the Eastern Psychological Association, Washington, DC.

Deci, E.L., & Ryan, R.M. (1980). The empirical exploration of intrinsic motivational processes. In L. Berkowitz (Ed.), *Advances in experimental social psychology*, 13, 39-80. New York: Academic Press.

Dee, T.S. (2001). *Teachers, race and student achievement in a randomized experiment*. Working Paper: National Bureau of Economic Research. Cambridge, MA.

Du, Y., Weymouth, C., & Dragseth, K. (2003). *Gender differences and student learning*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL April 21-25 2003. ERIC document number ED 477525.

Eaton, W.O., & Enns, L.R. (1986). Sex differences in human motor activity level. *Psychological Bulletin*, *100*(1), 19-28.

Ehrenberg, R.G., Goldhaber, D.D. & Brewer, D.J. (1995). Do teachers' race, gender and ethnicity matter? Evidence from NELS88. *Industrial and Labor Relations Review*, *48*, 547-561.

Erden, F., & Wolfgang, C.H. (2004). An exploration of the differences in pre-kindergarten, kindergarten and first grade teachers' beliefs related to discipline when dealing with male and female students. *Early Child Development and Care*, *174*(1), 3-11.

Entwisle, D.R., & Hayduk, L.A. (1988). Lasting effects of elementary school. *Sociology of Education*, *61*, 147-159.

Estrada, P., Arsenio, W.F., Hess, R.D. & Holloway, S.D. (1987). Affective quality of the mother-child relationship: Longitudinal consequences for children's school-relevant cognitive functioning. *Developmental Psychology*, *23*(2), 210-215.

Greenwood, C.R. (1991). Longitudinal analysis of time engagement and academic achievement in at-risk and no-risk students. *Exceptional Children*, *57*, 521-535.

Hale-Benson, J.E. (1986). *Black children: Their roots, culture, and learning styles*. Baltimore, MD: Johns Hopkins University Press.

Halpern, D.F. (1997). Sex differences in intelligence: Implications for education. *American Psychologist*, *52*(10), 1091-1102.

Hamre, B.K. & Pianta, R.C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development*, *72*(2), 625-638.

Hyde, J. S., Fennema, E., & Lamon, S. J. (1990). Gender Differences in Mathematics Performance: A Meta-Analysis. *Psychological Bulletin*, *107*(2), 139-155.

Hoffman, K., Llagas, C., & Snyder, T.D. (2003). *Status and trends in the education of blacks*. National Center for Education Statistics, Washington DC.

Howes, C., Phillipsen, L.C., & Peisner-Feinberg, E. (2000). The consistency of perceived teacher-child relationships between preschool and kindergarten. *Journal of School Psychology*, *38*(2), 113-132.

Hyman, I.A. (1996). Using research to change policy: Reflections on 20 years of effort to eliminate corporal punishment in schools. *Pediatrics*, *98*(4), 818-822.

Kagan, J. (1971). *Change and continuity in infancy*. New York, NY: Wiley.

Kesner, J.E. (2000). Teacher characteristics and the quality of teacher-child relationships. *Journal of School Psychology*, *38*(2), 133-149.

Kindlon, D., & Thompson, M. (2000). *Raising Cain: Protecting the emotional life of boys*. New York, NY: Ballantine Publishing Group.

Kleinfeld, C. (1998). The myth that schools shortchange girls: Social science in the service of deception. Washington, DC: Women's Freedom Network. (ERIC Document Reproduction Service No. ED 423210)

Lee, V.E., & Burkam, D.T. (1996). Gender differences in middle grade science achievement: Subject domain, ability level, and course emphasis. *Science Education*, 80, 613-650.

Luthar, S.S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71(3), 543-562.

Maccoby, E.E., & Jacklin, C.N. (1973). Stress, activity, and proximity seeking: Sex differences in the year-old child. *Child Development*, 44, 34-42.

Maccoby, E.E., & Feldman, S.S. (1973). Mother-attachment and stranger-reactions in the third year of life. *Monographs of the Society for Research in Child Development*, 37(1).

MacKinnon-Lewis, C., Castellino, D. R., Brody, G. M., & Fincham, F. D. (2001). A longitudinal examination of the associations between fathers' and children's attributions and negative interactions. *Social Development*, 10(4), 473-487.

Mangelsdorf, S., Gunnar, M., Kestenbaum, R., Lang, S., and Andreas, D. (1990). Infant proneness-to-distress temperament, maternal personality, and mother-infant attachment: Associations and goodness of fit. *Child Development*, 61, 820-831.

Mantzicopoulos, P., & Neuharth-Pritchett, S. (2003). Development and validation of a measure to assess head start children's appraisals of teacher support. *Journal of School Psychology*, 41(6), 431-451.

Margolis, J., Fisher, A., & Miller, F. (2000). The anatomy of interest: Women in undergraduate computer science. *Women's Studies Quarterly*, Spring/Summer 2000.

Martin, R.P., Wisenbaker, J., Mathews-Morgan, J., Holbrook, J., Hooper, S., & Spalding, J. (1986). Stability of teacher temperament ratings over six and twelve months. *Journal of Abnormal Child Psychology*, 14, 216-232.

Masten, A., & Garmezy, N. (1985). Risk, vulnerability, and protective factors in developmental psychopathology. In B. Lahey & A. Kazdin (Eds.), *Advances in clinical child psychology* (Vol. 8, pp. 1-52). New York: Plenum Press.

Mendoza, M.E., & Johnson, K.O. (2000). *Land of plenty: Diversity as America's competitive edge in science, engineering and technology*. Report of the Congressional Commission on the Advancement of Women and Minorities in Science, Engineering and Technology Development. Retrieved from www.nsf.gov/od/cawmset/html.

Murray, C., & Murray, K.M. (2004). Child level correlates of teacher-student relationships: An examination of demographic characteristics, academic orientations, and behavioral orientations. *Psychology in the Schools, 41*(7), 751-762.

Mullis, I.V.S., Martin, M.O., Beaton, A.E., Gonzales, E.J., Kelly, D.L., & Smith, T.A. (1996). *Science achievement in the primary school years: IEA's Third International Mathematics and Science Study (TIMSS)*. Chestnut Hill, MA: Center for the Study of Testing, Evaluation, and Educational Policy.

National Association of Early Childhood Specialists in State Departments of Education (2000). *Still unacceptable trends in kindergarten entry and placement*. Position Statement: National Association for the Education of Young Children. Retrieved from www.naeyc.org/positions.

O'Halloran, C.S. (1999). Mexican American female students who were successful in high school science courses. *Equity & Excellence in Education, 28*(2), 57-64.

Pedersen, F.A., & Bell, R.Q. (1970). Sex differences in preschool children without histories of complications of pregnancy and delivery. *Developmental Psychology, 3*, 10-15.

Pederson, E., Faucher, T.A., & Eaton, W.W. (1978). A new perspective on the effects of first grade teachers on children's subsequent adult status. *Harvard Educational Review, 48*, 1-31.

Pianta, R.C. (1997). Adult-child relationship processes and early schooling. *Early Education and Development, 8*(1), 11-26.

Pianta, R.C. (1994). Patterns of relationships between children and kindergarten teachers. *Journal of School Psychology, 32*, 15-31.

Pianta, R.C., & Nimetz, S.L. (1991). Relationships between children and teachers: Associations with classroom and home behavior. *Journal of Applied Developmental Psychology, 12*, 379-393.

Pianta, R.C. (2001). *Student-Teacher Relationship Scale*. Lutz, FL: Psychological Assessment Resources, Inc.

Pianta, R.C. & Stuhlman, M.W. (2004). Teacher-child relationships and children's success in the first years of school. *School Psychology Review, 33*(3).

Pigott, R.L., & Cowen, E.L. (2000). Teacher race, child race, racial congruence, and teacher ratings of children's school adjustment. *Journal of School Psychology, 38*(2), 177-195.

Pomerantz, E.M., Altermatt, E.R., & Saxon, J.L. (2002). Making the grade but feeling distressed: Gender differences in academic performance and internal distress. *Journal of Educational Psychology, 94*(2), 396-404.

Prior, M., Smart, D., Sanson, A., & Oberklaid, F. (1993). Sex differences in psychological adjustment from infancy to 8 years. *Journal of the American Academy of Child and Adolescent Psychiatry*, 32(2), 291-305.

Radin, N. (1971). Maternal warmth, achievement motivation and cognitive functioning in lower-class preschool children. *Child Development*, 42, 1560-1565.

Radke-Yarrow, M. & Sherman, T. (1990). Hard growing: Children who survive. In J. Rolf, A. Masten, D. Cicchetti, K. Nuechterlein, & S. Weintraub (Eds.), *Risk and protective factors in the development of psychopathology*. New York: Cambridge University Press.

Riding, R.J., & Fairhurst, P. (2001). Cognitive style, home background and conduct behavior in primary school pupils. *Educational Psychology*, 21(1).

Ryan, R.M., & Grolnick, W.S. (1986). Origins and pawns in the classroom: Self-report and projective assessments of individual differences in children's perceptions. *Journal of Personality and Social Psychology*, 50, 550-558.

Rutter, M. (1983). Stress, coping, and development: Some issues and some questions. In N. Garmezy & M. Rutter (Eds.), *Stress, coping, and development in children* (pp. 1-44). New York: McGraw Hill.

Rutter, M. (1999). Psychosocial adversity and child psychopathology. *British Journal of Psychiatry*, 174, 480-493.

Sadker, M., & Sadker, D. (2002). The miseducation of boys. In S. McGee Bailey & E. Rassen (Eds.), *Gender in Education*. San Francisco, CA: Jossey-Bass.

Sameroff, A.J., & Chandler, M.J. (1975). Reproductive risk and the continuum of caretaker casualty. In Horowitz (Ed.), *Review of child development research*. Chicago: University of Chicago Press.

Shaywitz, S.E., Shaywitz, B.E., Fletcher, J.M., & Escobar, M.D. (1990). Prevalence of reading disability in boys and girls: Results of the Connecticut Longitudinal Study. *Journal of the American Medical Association*, 264(8), 998-1003.

Shipp, D.O. (1979). An exploratory study: Assessing teachers' cultural affinity and the shaping of self-concept. *Social Work Abstracts*, 15(3).

Simpson, A.W., & Erikson, M.T. (1983). Teachers' verbal and nonverbal communication patterns as a function of teacher race, student gender, and student race. *American Educational Research Journal*, 20(2), 183-198.

Skiba, R.J., Michael, R.S., Nardo, A.C., & Peterson, R.L. (2002). The color of discipline: Sources of racial and gender disproportionality in school punishment. *Urban Review*, 34(4), 317-342.

Sommers, C.H. (2002). Why Johnny can't, like, read and write. In S. McGee Bailey & E. Rassen (Eds.), *Gender in Education*. San Francisco, CA: Jossey-Bass.

Sugai, G. & Horner, R. (2002). The evolution of discipline practices: School-wide positive behavior supports. *Child & Family Behavior Therapy*, 24(2), 23-50.

U.S. Department of Education, Office for Civil Rights (1999). *Elementary and Secondary School Compliance Reports*. Washington, DC: U.S. Government Printing Office.

U.S. Department of Education (2000). *NAEP 1999 trends in academic progress: Three decades of student performance* (NCES 2000-469). Washington, DC: Office of Educational Research and Improvement, National Center for Education Statistics.

U.S. Department of Education (2002). *Digest of Education Statistics, 2001*. Washington, DC: Office of Educational Research and Improvement.

Werner, E. (1993). Risk, resiliency, and recovery: Perspectives from the Kauai Longitudinal Study. *Development and Psychopathology*, 5(4), 503-516.

Willerman, L., & Plomin, R. (1973). Activity level in children and their parents. *Child Development*, 44, 854-858.

Young, C. (2001). Where the boys are: Concern over boys in America. *Reason*, February 2001.

Zill, N., & West, J. (2001). *Entering kindergarten: A portrait of American children when they begin school*. National Center for Education Statistics (ED), US Department of Education, Washington DC.

Zimmerman, R.S., Khoury, E.L., Vega, W.A., Gil, A.G., & Warheit, G.J. (1995). Teacher and parent perceptions of behavior problems among a sample of African-American, Hispanic, and non-Hispanic white students. *American Journal of Community Psychology* 23(2), 181-198.

Zirkel, S. (2002). Is there a place for me? Role models and academic identity among white students and students of color. *Teachers College Record*, 104(2), 357-376.