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PREDICTING ELEMENTARY TEACHERS' EFFORTS TO MANAGE SOCIAL

DYNAMICS FROM TEACHER CHARACTERISTICS AND THE EARLY YEAR PEER

ECOLOGY

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Abstract

Emerging literature suggests that effective management of classroom social dynamics has beneficial effects on students' experiences at school. Yet, *how* teachers come to use such strategies has remained unexplored. Teachers and students in 92 1st, 3rd, and 5th grade classrooms participated in a within-year longitudinal study of classroom social dynamics. We investigated the antecedents of teachers' use of strategies for managing three aspects of classroom social dynamics: patterns of social status, social affiliation and aggression. Regression results indicate that teacher characteristics, teacher beliefs, and teacher and peer perceptions of the classroom social climate at the beginning of the school year contribute to teachers' reported use of social dynamics management strategies at the end of the school year. Overall, teachers were more likely to engage in these strategies when they were female, were rated by observers as emotionally supportive, had high empathy for withdrawn students, perceived a more positive social climate, and when their students reported more negative peer relations. Results suggest both a personal and reactive component: teachers may have a general orientation towards managing social dynamics, but they may also respond to a negative peer environment by employing strategies for managing social dynamics.

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A teacher's influence is not limited to the academic realm, yet studies of teachers' influence in the elementary classroom have typically focused on teachers' role as the academic leader of the class. A revival of the idea that teachers play a critical role in classroom social relationships (Lewin, 1943) has led to a small body of literature investigating how teachers manage these relationships (Farmer, McAuliffe Lines, & Hamm, 2011). The purpose of the present study is to better understand the variability in teachers' use of strategies for managing social relationships. The present study builds on prior analyses by investigating classroom compositional factors, teacher characteristics, and teachers' and students' early year perceptions of the classroom peer ecology that may influence teachers' use of strategies for managing social dynamics.

The classroom peer ecology encompasses students' social experiences with peers in the classroom and is characterized by two dimensions: social status (vertical structure) and social networks (horizontal structure; Rodkin & Gest, 2010). Social status dynamics refer to the distribution of power in the classroom. Powerful students have more access to the social resources of influence and prestige. On an individual level, power is represented by having high levels of popularity and acceptance. At the classroom level, social status dynamics are represented through status hierarchies, structural embeddedness, and group norms. More egalitarian classes, where all students have relatively similar status levels, are thought to be associated with more positive youth outcomes (Rodkin & Gest, 2010).

Social network dynamics refer to patterns of relationships. At the individual level, social networks take the form of friendships or clique memberships. At the classroom level, social

network dynamics are represented by tight-knittedness, subgroup distinctiveness, homophily and the behavioral basis of subgroups. It is thought that classes that are more tightly knit provide students with deeper connections and opportunities for positive growth and social relations (Rodkin & Gest, 2010).

Social Dynamics Management Strategies

A teacher's influence extends beyond the academic knowledge they teach to the realm of the classroom peer ecology. This premise, in combination with growing awareness that children's peer relations influence their academic experiences at school (Ryan & Ladd, 2012), has resulted in an emerging body of knowledge aimed at elucidating the influence of teachers' "invisible hand" in managing the classroom peer ecology (Farmer et al., 2011).

Teacher practices and relationships may influence the larger classroom peer ecology and youth outcomes both directly and indirectly (Gest & Rodkin, 2011). Direct influences may occur through one-on-one interactions with students (e.g., coaching a student in social skills). Indirect influences occur through the teacher's impact on the peer ecology which may derive from general patterns of classroom interactions (e.g., warm-responsive teachers cultivating a more positive peer climate) or through more direct attempts to manage social status or social network dynamics.

Of specific interest in the present study are the more direct attempts to manage classroom social dynamics. In general, classroom management is described as "actions taken by the teacher to establish order, engage students, or elicit their cooperation" (Emmer & Stough, 2001, p. 103). Social dynamics management strategies (SDMS) are distinct from general classroom management because they focus explicitly on teachers' management of student-to-student interactions that are related to the peer ecology: social status dynamics and social network

dynamics. It is helpful to think about social dynamics management strategies (SDMS) with relation to the teachers' management of two dimensions of the peer ecology previously discussed.

We consider several ways that teachers may seek to manage social status dynamics by reducing the imbalance of power in the classroom. For example, teachers may seek to deemphasize social status in the classroom and emphasize social acceptance, or they may provide opportunities for lower status students to increase their status by showcasing their abilities or scaffolding positive social interactions with higher status students. These strategies share the goal of managing social status dynamics by mitigating status extremes in the classroom.

Teachers may seek to manage social network dynamics in two ways. First, they may seek to promote new friendships for students who are friendless or relatively isolated. For example, they could emphasize the importance of developing new friendships to the class as a whole, they could create opportunities for isolated students to develop new friendships, or they could work specifically with these students to develop positive social skills. These strategies share the goal of fostering social relationships for friendless students. Second, teachers may seek to intervene in existing friendships when they perceive those relationships are disadvantageous to one or more of the friends, or to the classroom as a whole. For example, teachers could structure the environment so that students in problematic friendships are less likely to interact, they could seek to improve the interactions through reinforcement or coaching, or could encourage students in negative friendships to develop new friendships. These strategies share the goal of managing relationships that are problematic for students.

Teachers may seek to manage aggression in ways that recognize the potential role of both social status and social dynamics (Farmer, 2000). First, they may seek to manage aggressive students and their victims. For example, they could try to limit opportunities for aggressive behaviors to occur and intervene promptly when instances do occur, or they could support children who are targets of aggression by limiting their exposure to these behaviors and coaching appropriate responses. These strategies share the goal of managing aggression and targets of these behaviors. Second, they may manage aggressive behavior and victims in specific ways that promote alternative positive behaviors. For example, teachers could try to create opportunities for aggressive students to interact positively with peers, or they may support students who are the targets of aggression by creating positive classroom roles and opportunities. These strategies share the common focus of creating alterative positive opportunities for aggressive students and their victims.

The primary method of studying teachers' SDMS is through teacher-report. Two challenges make this difficult to study using alternative methods. First, students' and teachers' behaviors related to SDMS may occur very infrequently, making it unlikely that a third party observer would be present when instances occur. Second, what makes teachers' social dynamics management strategies distinct from general classroom management is their explicit intention to manipulate the social relations of the classroom. Without the intimate familiarity of the class that the teacher is privy to, the *intent* behind the teachers' actions is not evident to an outside observer. In fact, the intent behind teachers' strategies likely go unnoticed by students as well. Consequently, researchers are left to rely on teachers' reports of their behavior, a method also used in the current study.

Farmer and colleagues (2011) theorize that teachers' social interactions communicate key information about expectations for relationships between students. Teachers have immense power because, through managing classroom social dynamics, they can shape the peer ecology by helping students who are struggling socially. Recent research on teachers' use of SDMS has provided support for this theory. Specifically, teachers who report more efforts to mitigate status extremes and support isolated students have pupils with more positive trajectories of peer community and school motivation across the school year (Gest, Madill, Zadzora, Miller, & Rodkin, 2014). In addition, teachers who report managing aggressive behavior and promoting prosocial behavior among aggressive students have decreases in aggressive behavior.

In sum, recent research has turned to the study of the teacher's role as the social leader of the classroom. Within this sphere of influence, teachers' SDMS are reported to be beneficial for their students. However, little is known about the variability between teachers and the determinants of teachers' strategy use. The present study investigated the classroom compositional factors, teacher characteristics, and perceptions of the early year peer ecology that may influence teachers' use of SDMS.

Classroom Compositional Factors

At the start of the school year, teachers are presented with a class consisting of a unique combination of grade, class size, socioeconomic status (SES), gender, and ethnic composition. Teachers are expected to effectively manage and teach their classes regardless of these characteristics. Studies have investigated the effect of various compositional factors on teaching.

In a study to determine the influence of class size, teachers and students were randomly assigned to 62 classes of various sizes for two years (Shapson, Wright, Eason, & Fitzgerald, 1980). Teachers reported more positive expectations for academic achievement and behavior

management in smaller classes. They also reported that they tailor their classroom instruction to the size of the class. However, observations showed no difference in method of instruction or the proportion of time spent interacting with the whole class, groups of students, or individual students between small and large classes. Consistent with these findings, a meta-analysis of the effects of classroom compositional factors including class size, single sex classes, and combination grade-level classes show no difference in teaching activities based on any of these dimensions (Hattie, 2002).

Evidence also suggests grade level does not have an effect on elementary teachers' beliefs about bullying or strategies used to manage bullying (Kochenderfer-Ladd & Pelletier, 2008). This finding may be attributed to the recent increase in state antibullying laws and policies that have restricted the range of socially acceptable responses that teachers can report ("Policies and Laws," 2015). It is possible that teachers' approach towards isolated students or problem friendships may differ as students age and teachers perceive students as more independent, but this has yet to be investigated.

While research suggests that class size, gender composition, and grade level have few effects on teachers' classroom practices, one compositional factor that does seem to have an effect on teaching is SES. The educational system's labeling of "Title 1" schools, a designation for schools with a high proportion of students on free or reduced priced lunch, signifying low SES, allowed for a naturalistic study of the relationship between SES and classroom management. Results indicated that teachers in Title 1 schools have lower rates of positive classroom management than non-Title 1 schools (Stichter et al., 2009). A high level of implementation of a school-wide positive behavior support program was a prerequisite for inclusion in the study, so it is likely that this difference stems from SES rather than differences in

school policy. It may be that low SES students have other greater needs, perhaps academic or behavioral in nature, which teachers prioritize over managing social dynamics. We may find that teachers with a high proportion of low SES students report less SDMS.

These studies indicate that teachers' expectations and thoughts about their approach to teaching may differ according to compositional factors of the class, but objective measures report few differences in classroom practice, except with regard to SES. While compositional factors may appear influential, based on these findings we do not expect them to have an effect on teachers' use of SDMS.

Teacher Characteristics Relating to Classroom Management

Research on classroom management began by investigating the characteristics of teachers whose students spent most of their time on the task at hand (Emmer, Evertson, & Anderson, 1980). More effective teachers established themselves as the leader, had clear and relatable rules, a variety of rewards, and good time management. They quickly stopped disruptive behavior and were aware of how students would perceive classroom. After these characteristics of an "effective manager" were identified, there was a shift towards understanding *why* teachers differ in how they manage their classes.

Most research exploring teacher-related predictors of classroom management have focused on the Attitudes and Beliefs of Classroom Control (ABCC) Inventory (N. K. Martin, Yin, & Baldwin, 1998). This inventory measures the teacher's control and power over students in three dimensions of classroom functioning: instructional management, people management, and behavior management. The people management subscale prompts teachers about the extent to which teachers should be involved or distanced from classroom social relations. To this end,

more control in the people management dimension is likely related to teachers' use of social dynamics management strategies.

Gender and classroom management. There is no clear consensus relating gender to classroom control as measured by the ABCC. In a study of 282 elementary and secondary public school teachers, male teachers were more controlling in instructional and behavioral management, but there were no differences in people management (Martin & Yin, 1997). A refinement of the ABCC subscales and reanalysis of this data resulted in no gender differences on any dimension (Martin et al., 1998). A similar study of 163 teachers found women to be more controlling in instructional management, but the authors express caution about these results because they depend on a smaller sample of men and are contrary to previous findings (Martin, Yin, & Mayall, 2006). A large, more recent study of English as a Foreign Language teachers in Iran supported the conclusion of no gender differences (Rahimi & Asadollahi, 2012).

Outside of the ABCC, a study of Turkish early childhood educators' use of behavioral management strategies found some gender differences in self-confidence and parent interactions, but no differences in teachers' ratings of the usefulness or frequency with which they use behavioral management strategies (Sak, Şahin Sak, & Yerlikaya, 2015). In all, findings of how gender is related to classroom management remain inconclusive.

Teaching experience. The idea that teachers become more lenient and less controlling over time also has conflicting evidence. The study of 163 elementary and secondary teachers previously discussed reported that experienced teachers were more controlling than novice teachers in instructional and people management (Martin et al., 2006), while another similar sized study of middle school teachers contends that years of teaching experience has no effect on any dimension of the ABCC (Ritter & Hancock, 2007).

Education. Some evidence supports the idea that teachers with higher degrees are less controlling than those with Bachelor's degrees (Rahimi & Asadollahi, 2012). Researchers who have focused on the potential differences between middle school teachers with a four-year BA plus teacher certification and an alternative certification through the school system found no differences along this distinction (Ritter & Hancock, 2007). One significant finding emerged, that teachers who were traditionally certified and had more years of experience were less controlling than colleagues with different combinations. The researchers postulate that in traditional certification, teachers are taught that they should be the center of attention, but with time, they learn to increasingly balance teacher control with support for student self-control.

Responsive teaching. Responsive teaching reflects teachers' general warmth and responsivity to their students, which is considered an important quality of adult-child interactions (Hamre, Hatfield, Pianta, & Jamil, 2014). Responsive teaching is associated with student gains in language, working memory, lower levels of teacher-child conflict, and higher levels of school bonding/motivation (Gest, Madill, Zadzora, Miller, & Rodkin, 2014; Hamre et al., 2014). Emotional support is a closely related construct that incorporates teachers' responsiveness to student needs, regard for student perspectives, and modeling positive relational skills (Gest & Rodkin, 2011). Students of emotionally supportive teachers perceive closer relationships with their teachers (Madill et al., 2014). Emotional support is also associated with peer relations; rates of friendship reciprocity are higher in classrooms with emotionally supportive teachers (Gest & Rodkin, 2011). Teachers who model appropriate social relations may be more in tune with and involved in the social dynamics of their class. As such, we expect teachers who are highly responsive to their students to also be more involved in their social relations, as evidenced by more frequent use of all SDMS.

Teacher beliefs. Research on teaching beliefs has focused on practice beliefs, context knowledge, and the process-product relationship in academic areas rather than the beliefs and cognitions that contribute to how teachers come to the decisions regarding SDMS (Fang, 1996). While tangentially related, the consensus in this body of literature is that teachers' beliefs about content areas have the strongest effect on teacher practices (Wilkins, 2008). In a similar line of thought, we expect teachers' beliefs about classroom social relations to influence their practice and use of strategies for managing social dynamics. Specifically, we expect that teachers who believe that withdrawn students should be treated with extra care will report more efforts mitigate status extremes and support isolated students, because these strategies involve the management of low status and withdrawn students.

Early Year Peer Ecology: Teacher Perceptions

The more obviously disruptive the behavior or relationship, the more likely a teacher is to intervene. Coplan and colleagues (2015) provided 400 preschool teachers with vignettes of various social behaviors. Teachers indicated how likely they were to intervene along with their emotional reactions to the situation. Teachers reported that they were more likely to intervene in response to physically and relationally aggressive children and less likely to intervene with subtler social relations like shyness and withdrawn children. In relation to the present study, we expect teachers' perceptions of aggression or negative peer relations would be predictive of mitigating status extremes, managing problem friendships, managing aggression, and promoting positive behavior.

Teachers characterize shy students as wanting to have positive social relations but being too inhibited to successfully engage with others. For example, they may remain on the sidelines of group play or resort to playing by themselves during free time. Because of this discrepancy

between a desire for prosocial behavior and their social competence, teachers identify shy children as a group of concern. When presented with a list of researcher-provided strategies, teachers are consistent in identifying particular ways in which they manage this group of students, such as employing social learning techniques and peer pairing (Coplan, Hughes, Bosacki, & Rose-Krasnor, 2011). A follow-up study included interviews with a small group of elementary teachers that allowed teachers to discuss their ways of integrating shy students into the social group. These strategies included encouraging oral participation, creating a safe environment, and peer strategies like small group discussions (Bosacki, Coplan, Rose-Krasnor, & Hughes, 2011). Based on this literature, we expect teachers to report more efforts to mitigate status extremes and support isolated students when they perceive more behaviors characteristic of shy children, or lower levels of prosocial behavior.

Early Year Peer Ecology: Peer Perceptions

We consider peer perceptions of the early year peer ecology separately from teachers' perceptions. Teachers' perceptions of the peer ecology are important because they employ SDMS. However, teachers are situated just outside of the peer ecology. Research on the accuracy of teachers' perceptions of social relationships, termed attunement, indicates that there is some discrepancy between the social relations reported by the teacher and those reported by students (Gest, 2006; Pearl, Leung, Acker, Farmer, & Philip, 2007). Stemming from this work, we are interested in both teachers' perceptions, as they reflect the teachers' reality, and potential bias, towards seeing the classroom in a certain way, and students' perceptions as a more objective measure of classroom functioning. Because students are active members of the peer ecology, we consider their perceptions as more proximal to the social dynamics of the classroom than teachers' perceptions. Both perspectives are plausibly linked to teachers' reported use of SDMS.

The present section focuses on research on teachers' response to objective student behaviors and characteristics.

A variety of factors play a role in the day-to-day decisions that teachers make, including class and school environment, and external pressures (Shavelson & Stern, 1981). Teachers reported responding to information about students, including ability level, sex, class participation, social competence, work habits, classroom behavior, and peer relations. Consistent with these findings, we expect teachers to be reactive in their use of SDMS; we expect teachers respond to a negative peer ecology by using strategies to manage these social dynamics.

In addition to instructional decisions, as the social leaders of the classroom, teachers respond to a variety of non-academic behaviors. Data from 130 elementary teachers indicated that teachers report responding in a specific ways depending on the behavior at hand, such as delinquency, disobedience, and aggression (Martin, Linfoot, & Stephenson, 1999). We expect that when students perceive a negative social climate, teachers will respond to this need by engaging in more efforts to manage social dynamics. Specifically, we expect students' perceptions of aggression would be predictive of mitigating status extremes, managing problem friendships, managing aggression, and promoting positive behavior, and lower levels of prosocial behavior would be associated with supporting isolated students.

Present Study

The present study aimed to elucidate the between-teacher variability in reported use of strategies for managing classroom social dynamics. Our aims were to identify determinants of teachers' self-reported efforts to use several different social dynamics management strategies. For each of these strategies, we examined four possible areas of influence, beginning with the most distal and proceeding to more proximal influences: classroom compositional factors,

teacher characteristics, teachers' perceptions of the early year peer ecology, and students' perceptions of the early year peer ecology.

Due to the limited research on the determinants of classroom management and strategies for specifically managing classroom social dynamics, many of these analyses were exploratory. Specifically, we expected classroom compositional factors to have little influence on teachers' strategy use. We expected these strategies would be related in some ways, possibly through teacher characteristics like responsive teaching, such that higher responsive teaching is positively associated with increases in all strategies. Based on Gest and colleagues' (2014) findings that different strategies predict different outcomes for students, and because these strategies focus on different aspects of the peer ecology, we expected teachers' beliefs, and teachers' and students' perceptions of the peer ecology to influence particular strategies more than others. We expected teachers' orientation towards attending to withdrawn students would be associated with increases in mitigating status extremes and supporting isolated students. We expected both teachers' and students' perceptions of aggression would be predictive of mitigating status extremes, managing problem friendships, managing aggression, and promoting positive behavior. We expected lower levels of reported prosocial behavior would be associated with supporting isolated students.

Method

Participants

Data were analyzed from a study of 1st, 3rd, and 5th grade teachers ($N = 92$) and their students ($N = 1828$) in 92 classrooms from multiple communities that reflect the economic, racial, and community-setting diversity present in the U.S. educational system. All teachers of 1st, 3rd, and 5th grade classrooms at the participating schools were invited to participate in the study. Of the 114 teachers who consented (representing over 85% participation), 22 teachers did

not complete demographics or surveys at the end of the school year and were therefore omitted from analyses. These 22 classrooms did not differ significantly from classrooms with complete teacher data in terms of class size, participation rate, percent female in the class, or levels of responsive teaching.

Informed parent consent was sought for all students in participating classrooms. The overall parental consent rate was 83% (range 63% to 100%). Of the 1828 participating students, 51% were female ($N = 933$). The sample was ethnically diverse: 46% were white, 34% were black, 11% were Hispanic, 4% were Asian, and 5% identified as "Other". Because our outcome variables were at the teacher or classroom level, student level data was aggregated to the classroom level for these analyses. Descriptive information about participating teachers and students are provided in Table 1.

Procedures

Data were collected at three time points across a single school year. Classroom factors, teacher demographics, and teacher and peer perceptions of the classroom peer ecology were collected within 8 weeks of the start of school (Time 1). Approximately 8 weeks later (Time 2), teachers reported their disapproval towards bullying and empathy for withdrawn students. Within 8 weeks of the end of the school year (Time 3), teachers reported on the social dynamics management strategies they had used during the year. 1st grade students were interviewed individually; 3rd and 5th grade students completed written surveys independently. Teacher surveys were administered in written and online format.

Measures

Social dynamics management strategies. At Time 3, teachers rated how often they used various strategies to manage classroom social dynamics. No rating scales measuring these

practices existed prior to this study, so items were generated based on a review of relevant literature (e.g., Farmer, 2006) and informal feedback from teachers who were not participants in the present study. Items were created to capture teachers' management of the three broad domains of the classroom peer ecology: social status dynamics, social network dynamics, and aggression/victimization. Factor analysis of these items (Gest et al., 2014) resulted in one scale related to status dynamics (mitigating status extremes), two scales related to network dynamics (supporting isolated students, managing problem friendships), and two scales related to aggression (managing aggression, promoting positive behavior). Items were rated on a 5-point Likert scale (1 = *Never*, 5 = *Very Often*).

   Mitigating status extremes. Teachers rated their efforts to make social status differences less salient by deemphasizing the importance of social status or by enhancing the status of low status students. Three items focused on reducing the salience of status differences (e.g., I try to structure the classroom environment so that social status is less relevant," "I try to create multiple routes to social status in the classroom") and three items focused on supporting low status students (e.g., "I try to coach low-status children to help them develop skills and strategies that could *lead to a more favorable status* in the classroom."). These six items formed an internally consistent scale (α = 0.81, *M* = 4.18, *SD* = 0.58).

   Supporting isolated students. Teachers rated their efforts to support children with no or few friends (4 items; α = 0.80, *M* = 3.74, *SD* = 0.69). This scale included items such as: "I try to create opportunities for isolated and friendless children to develop new friendships," and "I try to support isolated or friendless children by working with them to develop and practice social skills or strategies for forming relationships." These items are similar to those for mitigating status extremes in focusing on socially marginal students, but differ in their purpose: items on the

mitigating status extremes scale focus on improving social status, whereas those on the supporting isolated students scale focus on helping students develop new friendships.

Managing problem friendships. Teachers rated their efforts to prevent or manage friendships that involved high levels of negative interactions or classroom disruption (4 items; α = 0.72, *M* = 4.04, *SD* = 0.64). This scale included items such as: "I try to encourage children involved in problematic friendships or friendship groups to develop new, less problematic friendships with other classmates" and "I try to limit opportunities for problematic friendship or friendship groups to interact once they have formed."

Managing aggression. Teachers rated their efforts to prevent and manage aggression (5 items; α = 0.74, *M* = 4.44, *SD* = 0.53). This scale included items such as: "I try to structure the classroom environment to limit opportunities for aggressive, mean behavior," and "I try to support children who are often the target of aggressive, mean behavior by limiting their potential exposure to such behavior."

Promoting positive behavior. Teachers rated their efforts to promote positive behavior and social roles in aggressive students and their victims (5 items; α = 0.87, *M* = 4.19, *SD* = 0.67). This scale included items such as: "I try to influence social interactions of children who display aggressive, mean behavior by creating positive social opportunities for them," and "I try to help support children who are often the target of aggressive, mean behavior by creating extra, positive classroom roles for them."

Classroom factors. Classroom factors were measured at Time 1. Teachers were relatively equally distributed across 1st (*N* = 32), 3rd (*N* = 30), and 5th grades (*N* = 30). Classes were diverse in their composition. *Average class size* (*M* = 21.84, *SD* = 2.99), *proportion of girls in the class* (*M* = .48, *SD* = .09), proportion of students registered for *Free or Reduced Price*

Lunch (*M* = .66, *SD* = .23) were recorded for analyses. Each student's race/ethnicity was

obtained from school records. *Classroom diversity* was measured using Simpson's Diversity

Index, which considers the number of ethnic groups and the proportion of students in each group

(Graham, Munniksma, & Juvonen, 2014). This Index creates scores ranging from 0-1, where 1

represents a class with a many different ethnic groups and students distributed across each group.

Scores ranged from 0-.77, *M* = .52, *SD* = .22.

Teacher characteristics. Teachers reported on personal variables at Time 1: *Gender*

(88% female), *age* (*M* = 39.01, *SD* = 10.50), *years of teaching* experience (*M* = 12.41, *SD* =

8.02), and *education level* (27% = Master's Degree).

Responsive teaching. Teacher-student interaction quality was assessed using the

Classroom Assessment Scoring System at Time 1 (CLASS; Pianta, La Paro, & Hamre, 2008).

Two trained observers visited each classroom. At the end of each of the four 20-minute cycles,

the observers independently rated 10 dimensions of classroom interactions. Consistent with

recent approaches to CLASS data (Gest, et al., 2014; Hamre, Hatfield, Pianta, & Jamil, 2014) we

created scales under a bifactor model through confirmatory factor analysis (CFA). The bifactor

model allowed all 10 items to load on a single general factor, Responsive Teaching, which

captures positive classroom climate and teacher-student interaction quality (Hamre et al., 2014).

Responsive teaching ranged from -2.82 - 1.90, *M* = 0, *SD* = 0.97.

Beliefs about bullying and social withdrawal. At Time 2, teachers responded to 24 items

regarding their beliefs about bullying and interacting with students. Items were rated on a 5-point

Likert scale (1 = *Never*, 5 = *Always*). Two subscales, Bullying Disapproval and Empathy for

Withdrawn students were used in the present study (Chang, 2003). Bullying disapproval

includes four items relating to teachers' feelings towards bullying (α = .65, *M* = 4.42, *SD* = 0.55).

This scale included items such as: "I feel angry when students bully others," and "Bullies must be disciplined." Three items focused on teachers' beliefs and approach towards withdrawn students (α = .66, M = 4.16, SD = 0.54). This scale included items such as: "Extra patience is needed with those who are reticent and withdrawn," and "I am protective of those who are shy and timid."

Early year peer ecology: teacher perceptions. At Time 1, teachers rated each participant in their class on their aggressive and prosocial behavior, and their relationship with the teacher using 5-point Likert scales (1 = *Always*, 5 = *Never*). For each scale, ratings were averaged across all students in the classroom to arrive at a single score characterizing the teacher's general perception of the classroom in that domain.

Aggression. Teachers responded to four items relating to students' aggressive behavior, including "Gets in fights," and "Teases classmates." All items were coded so higher values indicate higher levels of aggression (α = .86). Teachers generally perceived low to moderate levels of classroom aggression: range 1.09 to 3.21, M = 1.88, SD = 0.47.

Prosocial behavior. Teachers responded to four items relating to prosocial behavior including "Cheers others up," and "Kind to others" (α = .86) Items were coded so higher values indicate higher levels of prosocial behavior. Teachers generally perceived moderate to high levels of classroom prosocial behavior: range 2.75 to 4.58, M = 3.76, SD = 0.39.

Teacher-child relationship. Teachers responded to four items relating to their perceptions of students' relationship with the teacher; including "Trusts teacher," and "Avoids contact with teacher" (α = .86). Items were recoded as necessary so that higher values indicate a more positive teacher-child relationship. Teachers generally perceived moderate to strong teacher-student relationship quality: range 3.13 to 4.91, M = 3.85, SD = 0.41.

Early year peer ecology: peer perceptions. At the start of the school year, students nominated peers who were aggressive and prosocial, and responded to survey questions about their sense of peer community. For all peer nominations, the number of nominations was unlimited but self-nominations were not counted. As with the teacher ratings, individual student scores were averaged within each classroom to arrive at a single classroom-level score for each domain summarizing general peer perceptions of the peer ecology.

Aggression. Individual scores for aggression were operationalized as the proportion of classmates nominating a student as someone who "starts fights." Classroom-average scores ranged from .01 to .37, $M = .13$, $SD = .07$, indicating that in the average class, students were nominated by 13% of their peers as aggressive.

Prosocial behavior. Students nominated classmates on two items reflecting prosocial behavior: "These kids are always willing to do something nice for somebody else," and "these kids cooperate: they pitch in, share, and give everyone a turn." Individual proportion scores for these items were averaged within each classroom. Classroom-average scores ranged from .16 to .69, $M = .41$, $SD = .11$, indicating that in the average class, students were nominated by 41% of their peers for these prosocial behaviors.

Sense of peer community. Sense of peer community was assessed using a six-item scale adapted from Battistich and colleagues (Battistich, Solomon, Kim, Watson, & Schaps, 1995; α = .83; 1 = *Never*; 5 = *Always*; e.g., "Kids in my classroom...help each other," "...treat each other with respect"). Classroom-average scores ranged from 2.34 to 4.45, $M = 3.65$, $SD = 0.46$, indicating substantial between-classroom differences in perceptions of peer community.

Analytic Strategy

In preliminary analyses, we calculated the intraclass correlations of the measures of teachers' and students' perceptions of the early year peer ecology to verify that there was meaningful between-classroom variability. We then conducted preliminary analyses to identify which distal classroom factors and teacher characteristics may be most relevant to teachers' reported use of strategies to manage classroom social dynamics at the end of the school year. For parsimony, we retained only theoretically or statistically significant predictors in subsequent analyses. Finally, we explored the possibility of collinearity among predictors by examining correlations among teachers' SDMS, the retained classroom factors and teacher characteristics, and perceptions of the peer ecology.

For the main analyses, we ran a series of five OLS regression models using the "lm" function in R. In each model, the dependent variable was one of the social dynamics management strategies (i.e., mitigate status extremes, support isolated students, manage problem friendships, manage aggression, and promote positive behavior). Each model proceeded in four steps. In Step 1, we tested the contribution of the theoretically significant classroom factors from preliminary analyses. In Step 2, we added the contribution of the statistically significant teacher characteristics from preliminary analyses, along with teachers' bullying disapproval and empathy for withdrawn students. In Step 3, we added teachers' perceptions of the classroom social climate. In Step 4, we added peer-perceptions of the classroom social climate. Grade was centered at Grade 1, teacher gender was centered so $0 = $ Male. All other predictors were grand mean centered to aid in interpretation such that intercepts may be interpreted as reported strategy use for a male, 1st grade teacher, when all other predictors are held at their mean.

Results

Preliminary Analyses

Intraclass correlations were calculated for the whole sample of the measures of teachers'

and students' perceptions of the early year peer ecology are presented in Table 2. Results

confirmed there was sufficient variance at the classroom level for the remaining variables to

warrant inclusion in analyses (Madill et al., 2014).

Next we assessed the contribution of distal classroom factors and teacher characteristics

on teachers' reported use of each strategy to manage classroom social dynamics, results are

presented in Table 3. Of the classroom factors, only class size emerged as a marginally

significant predictor for promoting positive behavior ($b = 0.05$, $p = .09$). Of the teacher

characteristics, gender was a significant or marginally significant predictor for three of the five

strategies: supporting isolated students ($b = 0.56$, $p = .02$), managing aggression ($b = 0.49$, $p =$

.01), and mitigating status extremes ($b = 0.36$, $p = .06$). Responsive teaching was also a

significant or marginally significant predictor for two of the five strategies: supporting isolated

students ($b = 0.20$, $p = .05$) and promoting positive behavior ($b = 0.17$, $p = .06$). Gender and

responsive teaching were retained in subsequent models due to their significance. We also

retained grade level and class size, regardless of their significance, as past research suggests they

influence peer nomination data that we include in subsequent analyses (Rubin, Coplan, Chen,

Buskirk, & Wojslawowicz, 2005).

Table 4 presents simple correlations between teachers' SDMS, classroom factors, teacher

characteristics, and perceptions of the peer ecology. Teachers' SDMS were moderately

correlated, as expected (range $r = .39$ to $r = .63$). The correlations did not exceed .70, indicating

that strategies were distinct, so we continued to analyze each SDMS separately. Correlations

among predictors were generally moderate (median r = .10; range r = -.57 to r = .38) and did not

indicate that any of the measures were strongly collinear.

Mitigating Status Extremes

Model 1 tested the significance of classroom factors (grade level and class size) as

predictors of teachers' efforts to mitigate status extremes (see Table 5). Compared to an empty

model with no predictors, including this block of predictors did account for significant variance

in mitigating status extremes, ΔF (2, 89) = 0.10, p = .81. Adding teacher gender, responsive

teaching, and teachers' disapproval towards bullying and empathy for withdrawn children

(Model 2) significantly improved the model fit ΔF (4, 85) = 3.88, p = .01. Teachers who were

female (b = 0.38, p = .05) and who reported more empathy for withdrawn children (b = 0.25, p =

.03) reported more frequent use of strategies to mitigate status extremes. Responsive teaching

and teachers' beliefs about bullying did not make unique contributions within the block. Adding

teachers' perceptions of the early year peer ecology (perceptions of aggression, prosocial

behavior, and teacher-child relationship; Model 3) significantly improved the model fit ΔF (3,

82) = 2.77, p = .05. Teachers' perceptions of teacher-child closeness was a marginally significant

predictor; teachers who perceived more supportive relationships with their students reported

more frequent use of strategies to mitigate status extremes (b = 0.27, p = .10). Adding peer

perceptions of aggression, prosocial behavior, and peer community into Model 4 did not

significantly improve the model fit ΔF (3, 79) = 1.04, p = .31.

In sum, teacher characteristics and teachers' perceptions of the peer ecology offered a

significant contribution in explaining teachers' efforts to mitigate status extremes. Female

teachers who report more empathy towards withdrawn students and a closer relationship with

their students report more efforts to mitigate status extremes.

Supporting Isolated Students

Model 1 tested the significance of classroom factors as predictors of teachers' efforts to support isolated students (see Table 6). Including this block of predictors did not significantly improve the model fit, ΔF (2, 89) = 0.71, p = .49. Including gender, responsive teaching, bullying disapproval, and empathy for withdrawn children (Model 2) significantly improved the model fit, ΔF (4, 85) = 6.98, $p < .001$. Teachers who had higher responsive teaching scores reported more efforts to support isolated students (b = 0.20, p = .01). Teachers' empathy towards withdrawn children was a significant positive predictor, (b = 0.41, p = .002). Teacher gender emerged as a marginally significant predictor within this block (b = 0.37, p = .09), such that female teachers reported more efforts to support isolated students than male teachers. Adding teachers' perceptions of the early year peer ecology (Model 3) did not improve the model fit ΔF (3, 82) = 1.90, p = .17. The inclusion of peer perceptions (Model 4) made a marginally significant contribution to the prediction of supporting isolated students, ΔF (3, 79) = 2.45, p = .07. Specifically, students' perceptions of prosocial behavior were positively related to teachers' strategy use (b = 1.65, p = .02).

In sum, teacher characteristics made significant contribution and peer perceptions made a marginally significant contribution to understanding teachers' use of strategies to support isolated students. Namely, teachers who are female, have higher levels of responsive teaching and empathy towards withdrawn students, and whose students perceive more prosocial behavior report more efforts to support isolated students.

Managing Problem Friendships

Model 1 (see Table 7) tested the significance of classroom factors in predicting teachers' efforts to manage problem friendships. Including this block of predictors did not significantly

improve the model fit, ΔF (2, 89) = 0.31, p = .73. Teacher characteristics (Model 2) made a significant contribution to the prediction of managing problem friendships, ΔF (4, 85) = 2.77, p = .03. Similar to the other outcomes, beliefs about withdrawn children was a significant unique predictor within this block (b = 0.28, p = .03). Including teachers' perceptions (Model 3) did not significantly improve the model ΔF (3, 82) = 1.37, p = .26. Including peer perceptions (Model 4) significantly improved the model ΔF (3, 79) = 6.02, p < .001. Specifically, students' perceptions of aggression made a unique contribution to the prediction of teachers' efforts to manage problem friendships (b = 4.02, p = .003), as did student perceptions of prosocial behavior (b = 1.35, p = .05). Seemingly contradictory, when students report more aggression and more prosocial behavior, their teachers report more efforts to manage problem friendships.

In sum, teacher characteristics and peer perceptions both made significant contributions to explaining teachers' efforts to manage problem friendships. Teachers who report more empathy toward withdrawn students, and teachers whose students perceive more aggression and more prosocial behavior report more efforts to manage problem friendships.

Managing Aggression

Classroom factors (Model 1, Table 8) did not account for significant variance in managing aggression, ΔF (2, 89) = 0.21, p = .88. Teacher characteristics (Model 2) explained a significant portion of the variance, ΔF (4, 85) = 8.89, p < .001. Similar to the other outcomes, female teachers reported more efforts to manage aggression than male teachers (b = 0.35, p = .03). Bullying disapproval (b = 0.24, p = .01) and beliefs about withdrawn children (b = 0.33, p < .001) were also significant unique predictors. Teacher's perceptions of the peer ecology (Model 3) also significantly improved the model, ΔF (3, 82) = 3.02, p = .04, although no individual predictor reached significance as a unique contributor to this association. Including peer

perceptions (Model 4) also significantly improved the model, ΔF (3, 79) = 4.29, p = .007. Specifically, students' perceptions of prosocial behavior are a unique contributor to teachers' strategy use (b = 1.05, p = .03). Seemingly contradictory findings indicate that perceptions of peer community are negatively associated with managing aggression (b = -0.37, p = .03).

In sum, teacher characteristics, teacher, and peer perceptions of the classroom ecology each offered a unique contribution to explaining teachers' efforts to manage aggression. Particularly, female teachers, those who are disapproving of bullying, with higher empathy for withdrawn students, and whose students perceive more prosocial behavior but report lower levels of peer community report more efforts to manage aggression.

Promoting Positive Behavior

Model 1 (Table 9) tested the significance of classroom factors in teachers' efforts to promote positive behavior in aggressive students. This block of predictors did not account for significant variance in promoting positive behavior, ΔF (2, 89) = 0.50, p = .61. Teacher characteristics (Model 2) explained a significant portion of the variance, ΔF (4, 85) = 0.50, $p <$ .001. Specifically, higher responsive teaching (b = 0.22, p = .003) and empathy for withdrawn students (b = 0.37, p = .004) were associated with more efforts to promote positive behavior. Teachers' perceptions of the peer ecology (Model 3) significantly improved the model, ΔF (3, 82) = 2.09, $p <$ .001. Teachers' perceptions of a close relationship with their students was a marginally significant unique predictor (b = 0.30, p = .10). Model 4 tested the significance of peer perceptions of the classroom social climate. This set of predictors did not significantly improve the model, ΔF (3, 79) = 0.79, p = .50.

Only teacher characteristics and teachers' perceptions made a significant contribution to explaining teachers' efforts to promote positive behavior in aggressive children. When

responsive teaching and empathy for withdrawn students are higher, and teachers feel closer to their students, they report more efforts to promote positive behavior.

Discussion

Results suggest that teachers' use of SDMS is associated with a combination of teachers' gender, teachers' supportiveness of students, and both teacher and peer perceptions of the early year peer ecology. Prior theory and evidence have provided a conceptual framework and initial evidence that such strategies are associated with positive student outcomes. This is the first study to examine factors that are associated with teachers' use of SDMS.

Classroom Composition Factors: An Obvious Dimension with Little Influence

Teachers' use of SDMS were essentially unrelated to the composition of the classroom. Previous research indicates that teachers *expectations* for instruction and classroom management differ according to classroom composition (Shapson, Wright, Eason, & Fitzgerald, 1980), but that classroom composition has little impact on their actual *practices* (Kochenderfer-Ladd & Pelletier, 2008; Shapson et al., 1980). In the present study, teachers' use of SDMS did not vary as a function of grade level, size of the class, degree of financial need, gender composition, or racial/ethnic composition. Of the 25 effects tested, only one effect emerged as marginally statistically significant, which is consistent with what one would expect by chance (1/25 = .04). The absence of evidence linking classroom composition to teachers' SDMS is consistent with past literature examining more general classroom management practices (Kochenderfer-Ladd & Pelletier, 2008; Shapson et al., 1980). There are several possible reasons for these null findings: classroom factors may be unrelated to the proximal classroom conditions that lead to teachers' strategy use; they may have an effect on dimensions of the peer ecology that are not associated

with teachers' strategy use; or there may be more relevant aspects of classroom composition that

were not assessed in the present study (e.g., student behavioral history).

Teacher Characteristics: An Orientation Towards Social Dynamics

The inclusion of teacher characteristics explained a signification portion of the variance

in all five SDMS, with teacher gender, responsive teaching, and empathy toward withdrawn

students each consistently related to SDMS.

Gender. Female teachers reported more efforts to mitigate status extremes, support

isolated students, and manage aggression. Results indicate that female teachers are more oriented

towards and involved in managing social relations than male teachers. These results are at odds

from research on the ABCC, which suggests that male teachers may be more controlling

classroom leaders (Martin & Yin, 1997). The people management subscale of the ABCC, which

includes items about teachers' involvement in students' interpersonal relations, was not clearly

associated with teacher gender. However, the people management subscale also includes more

general items relating to students' autonomy, and emotional and rational capabilities. In contrast,

the current analyses specifically target teachers' management of social status dynamics, patterns

of affiliation, and aggressive behavior: the inconsistency in these results may be attributed to this

distinction in focus.

Responsive teaching. Teachers who were rated by observers as warmer and more

responsive in their interactions with students were more likely to report supporting isolated

students, managing problem friendships, and promoting positive behavior. Responsive teaching

and related constructs have been associated with lower levels of teacher-child conflict, closer

relationships with students, and stronger friendships (Gest, Madill, Zadzora, Miller, & Rodkin,

2014; Gest & Rodkin, 2011; Madill et al., 2014). Present results help to explain these previous

findings by suggesting that teachers' warmth and responsivity to general student needs are likely related to their responsivity to specific students' social challenges and needs.

Interestingly, responsive teaching was not related to teachers' efforts to manage aggression. Present findings aid in the understanding of Serdiouk and colleagues' (2015) findings, that responsive teaching is unrelated to changes in victimization or the rejection-victimization association across the year. Teachers' attentiveness to managing aggressive behavior may be a relatively distinct dimension of teaching. We would expect teachers' efforts to manage aggression would be more related to victimization and the rejection-victimization relationship than responsive teaching.

Empathy for withdrawn students and bullying disapproval. Teachers who expressed more empathy for withdrawn students reported using more of each of the five SDMSs. Based on research that strongly connects teachers' beliefs about content areas to teaching practices (Wilkins, 2008), we expected teachers' beliefs about social relations to influence the practices they use to manage social relations. The fact that teachers' empathy towards withdrawn students predicted SDMS so broadly suggests that it may serve as a marker for teachers' general orientation toward supporting students' social relationships in the classroom. Teachers who express empathy toward withdrawn students may be more readily able to put themselves in students' shoes, and take action when students' are struggling socially.

Teachers' disapproval of bullying predicted teacher SDMS use only for the managing aggression scale. It is likely that the restricted range on this scale, likely reflecting the pervasive emphasis on anti-bullying efforts in schools in recent years, limited its predictive power. In this context, it is noteworthy that there may still be differences among teachers in the strength of their disapproval of bullying that are related to how they manage aggressive children in the classroom.

The null effects for teacher age, level of education, and experience are broadly consistent with prior research indicating that these characteristics have little effect on teachers' classroom management (Martin, Yin, & Baldwin, 1998; Ritter & Hancock, 2007). Present findings extend this conclusion to the management of classroom social dynamics. Teachers receive very limited training on managing social relations, and present findings suggest that a more advanced degree does not alter teachers' reported strategy use. These null effects for age and years of experience also suggest that teachers' management of social relations do not necessarily change over the course of a teaching career.

These results suggest a general trend for some teachers to be more involved in social dynamics than others. These teachers are often women, those who are highly responsive to their students, and who hold strong beliefs about bullying behavior and working with shy and withdrawn students.

Early Year Peer Ecology: Teacher Perceptions as Awareness of Social Dynamics

Teachers' perceptions of the early year peer ecology were predictive of three of the five SDMS: mitigating status extremes, managing aggression, and promoting positive behavior. While no one measure of teachers' perceptions emerged as consistently predictive, the consistent negative coefficients for aggression and positive coefficients for prosocial behavior and teacher-child relationship suggest that more positive perceptions of the peer ecology are associated with higher use of SDMS.

We expected that teachers' perceptions of a negative peer ecology would signal a need for intervention, resulting in more efforts to manage social dynamics. Contrary to our hypotheses, more *positive* perceptions of the peer ecology were related to higher levels of SDMS. It is not clear what this counterintuitive pattern may reflect. One possibility is that the

more positive perceptions that predict SDMS reflect teachers' general awareness of social dynamics, rather than serving as an indicator of their level of concern about the social climate. The weak positive associations among responsive teaching, empathy for withdrawn students, and teachers' perceptions of the social climate are consistent with this perspective. This would further support the interpretation that some teachers are more oriented towards classroom social dynamics than others.

Early Year Peer Ecology: Peer Perceptions as a Signal for Teacher Intervention

Peer perceptions of the peer ecology contributed to a significant portion of the variance in managing problem friendships and managing aggression, and a marginally significantly portion of the variance in supporting isolated students. Similar to teachers' perceptions, more positive peer perceptions of prosocial behavior were related to more efforts to support isolated students, manage problem friendships, and manage aggression. Higher levels of peer-nominated cooperative and helpful behavior may indicate that prosocial behavior towards others is a classroom norm. Teachers may be more inclined to employ SDMS in classes where students report more prosocial behavior, in part because of a shared teacher and peer norm toward prosocial behavior, perhaps also suggesting that students are receptive to changes in social relationships.

In classrooms where peers nominated more classmates as "starting fights" at the start of the school year, teachers reported making more efforts to manage problem friendships, manage aggression, and promote positive behavior. This suggests a reactive dynamic in which teachers are responding to negative peer relations by taking steps to intervene in friendships and aggressive behavior. The strong significant association between peer-nominated aggression and teachers' efforts to manage problem friendships may be an indication of how salient high conflict

friendships are for teaching. It may be that aggression is particularly consequential in friendships, perhaps because these relationships can escalate quickly into classroom disruptions as students involve the larger peer group in the conflict. As a result, teachers may be particularly responsive to aggression in the context of friendships.

In classrooms where students report less positive perceptions of peer community, teachers reported making more efforts to mitigate status extremes and manage aggression. This relationship also supports a reactive process in which teachers respond to negative social dynamics by intervening when the class reports that their peers are unsupportive towards each other.

Practice Implications

Current analyses contribute to our understanding of factors that may contribute to *why* teachers differ in their use of strategies for managing social dynamics. Some teachers seem more prone to managing social dynamics than others; even after accounting for teachers' perceptions of the peer ecology and more objective peer perceptions, male teachers and teachers with low levels of responsive teaching, and low levels of empathy for withdrawn students are less likely to employ SDMS. While present analyses do not permit us to make strong claims about causation, they have allowed us to identify potential points of leverage that can be incorporated in professional development programs. For example, increasing teachers' responsiveness to students or empathy will carry its own benefits, and likely be associated with increases in SDMS. Research indicates classroom management can be taught and improved (Evertson et al., 1983), and training on these supportive orientations may fit well into existing intervention programs like My Teaching Partner (Mikami, Gregory, Allen, Pianta, & Lun, 2011).

Results also indicate a reactive component; teachers respond to negative classroom interactions (e.g., high levels of aggression and low levels of peer community) by implementing SDMS. These findings suggest the importance of promoting teachers' attunement to these negative peer dynamics, so they can accurately assess the peer ecology and intervene to support students when necessary. This method of intervention embraces a similar approach to the SEALS intervention, which encourages teachers to recognize and react to ecological influences (Motoca et al., 2014).

Limitations and Future Directions

The present study has several notable strengths. The longitudinal nature of the data allowed us to use teacher and student perceptions of the peer ecology from the start of the school year to predict teachers' SDMS use at the end of the year. The multi-method measurement strategy allowed us to consider a variety of different factors that could relate to teachers' use of SDMS and permitted a triangulation strategy that reduced the chance of key associations reflecting shared method variance. The hierarchical regression models clarify the unique contributions of key factors after accounting for a range of plausible covariates (e.g., classroom composition, teacher demographics.

Future research could clarify how teacher beliefs and personality affect SDMS use. In the present study, broad dimensions of bullying disapproval and empathy for withdrawn students predicted SDMS use despite ceiling effects on both scales. Studies that elicit more specific thoughts and feelings regarding these behaviors could clarify these effects. It is possible that teachers' own social experiences as schoolchildren, or their own level of shyness, contribute to their expressed empathy toward withdrawn students and their likelihood to intervene (Coplan et al., 2011). More broadly, teacher personality may influence their classroom management

approach, including SDMS use (e.g., rule conscious teachers may be more controlling of their students; Martin & Yin, 1997).

Future research could also expand strategies or measures of SDMS use. In the present study, teachers responded to a set of researcher-driven prompts about their strategies for handing various social relationships (Gest et al., 2014). Teachers may enact additional strategies to manage these situations that were not prompted in the survey. Further research should employ qualitative methods to establish a culturally grounded set of strategies for managing these dimensions of social dynamics that are validated by elementary teachers. In addition, it would be useful to investigate the whether teachers use of SDMS is relatively static or fluid over time (e.g., within and across school years).

Conclusion

Teacher characteristics and teacher and peer perceptions of the early year peer ecology were predictive of teachers' use of SDMS. Teacher characteristics that appeared to drive the use of SDMS include female gender, high levels of empathy for withdrawn students and an emotionally supportive interaction style. There was also evidence of a reactive dynamic in which teachers respond to students' perceptions of a negative peer ecology by increasing their use of SDMS. These results provide a useful first step in identifying factors that contribute to teachers' use of SDMS. These results may be used to inform professional development programs that increase teachers' use of SDMS.

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APPENDIX

TABLES

Table 1

Descriptive Statistics for Teachers' Reported Social Dynamics Management Strategies, Classroom Factors, Teacher Characteristics, and Teacher and Peer Perceptions of the Early Year Peer Ecology

	N	Mean	*SD*	Min	Max
Social Dynamics Management Strategies					
Mitigate Status Extremes	92	4.18	0.58	2.17	5
Supporting Isolated Students	92	3.74	0.69	2.25	5
Managing Problem Friendships	92	4.04	0.64	2.50	5
Managing Aggression	92	4.44	0.53	2.60	5
Promote Positive Behavior	92	4.19	0.67	2.80	5
Classroom Factors					
Participation Rate	92	.83	.08	.63	1
Class Size	92	21.84	2.99	15	29
Proportion FRPL	85	.66	.23	0	1
Proportion Female	92	.48	.09	.27	.65
Diversity Score	92	.52	.22	0	.77
Teacher Characteristics					
Teacher Age	90	39.01	10.50	23	62
Years Teaching	92	12.41	8.02	2	34
Responsive Teaching	92	0	0.97	-2.82	1.90
Bullying Disapproval	92	4.42	0.55	3	5
Empathy for Withdrawn	92	4.16	0.54	3	5
Early Year Peer Ecology: Teacher Perceptions					
Aggression	92	1.88	0.47	1.09	3.21
Prosocial Behavior	92	3.76	0.39	2.75	4.58
Teacher-Child Relationship	92	3.85	0.41	3.13	4.91
Early Year Peer Ecology: Peer Perceptions					
Aggression	92	.13	.07	.01	.37
Prosocial Behavior	92	.41	.11	.16	.69
Peer Community	92	3.65	0.46	2.34	4.45

Note: *N* = Number of participants; *SD* = Standard deviation. FRPL = Free or Reduced Price Lunch.

Table 2

Intraclass Correlations: Variance Explained by Between-Class Differences

Measure of Peer Ecology	ICC
Peer Ecology: Teacher Perceptions	
Aggression	15%
Prosocial Behavior	13%
Teacher-Child Relationship	30%
Peer Ecology: Peer Perceptions	
Aggression	10%
Prosocial Behavior	21%
Peer Community	10%

Note: ICC = intraclass correlation; analyses include students and teachers from the full sample; unconstrained ICCs are reported for teacher perceptions; ICCs for peer perceptions include covariates for class size and grade.

Table 3

Predicting Teachers' Social Dynamics Strategies from Classroom Factors and Teacher Characteristics

	Mitigating Status Extremes		Supporting Isolated Students		Managing Problem Friendships		Managing Aggression		Promoting Positive Behavior	
	Estimate	*SE*	Estimate	*SE*	Estimate	*SE*	Estimate	*SE*	Estimate	*SE*
Intercept	3.77 ***	0.22	3.10 ***	0.27	3.83 ***	0.25	3.98 ***	0.21	3.96 ***	0.25
Classroom Factors										
Grade	0.04	0.04	0.05	0.05	0.03	0.05	0.04	0.04	-0.02	0.05
Class Size	0.01	0.02	0.04	0.03	0.02	0.03	0.00	0.02	0.05 +	0.03
Proportion FRPL	-0.29	0.31	-0.37	0.36	0.06	0.34	-0.37	0.28	-0.47	0.36
Proportion Female	0.42	0.76	0.53	0.93	0.08	0.89	0.30	0.74	1.41	0.88
Diversity Score	-0.63	0.43	-0.22	0.53	-0.54	0.51	-0.07	0.42	-0.58	0.50
Teacher Characteristics										
Teacher Gender	0.36 +	0.19	0.56 *	0.23	0.29	0.22	0.49 *	0.18	0.26	0.22
Teacher Age	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.01
Teacher Education	-0.01	0.09	0.05	0.11	-0.09	0.11	-0.06	0.09	0.02	0.11
Years Teaching	0.01	0.01	-0.01	0.02	0.00	0.02	-0.02	0.01	-0.01	0.02
Responsive Teaching	0.07	0.08	0.20 *	0.09	0.11	0.08	0.02	0.07	0.17 +	0.09
R Square	0.18		0.19		0.09		0.14		0.21	
Adj R Square	0.07		0.08 +		-0.04		0.02		0.10 +	

Note. Grade is coded as continuous. FRPL = Free or Reduced Price Lunch. Teacher gender is coded so 0 = Male.
*** *p* < .001. ** *p* < .01. * *p* < .05. + *p* < .10.

Table 4

Correlations among Teachers' Social Dynamics Management Strategies, Classroom Factors, Teacher Characteristics, and Perceptions of the Early Year Peer Ecology

	Social Dynamics Management Strategies					Classroom Factors		Teacher Characteristics				Peer Ecology: Teacher Perceptions			Peer Ecology: Peer Perceptions		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Social Dynamics Management Strategies																	
1. Mitigate Status Extremes	-																
2. Support Isolated Students	0.63	-															
3. Manage Problem Friendships	0.56	0.50	-														
4. Manage Aggression	0.49	0.39	0.52	-													
5. Promote Positive Behavior	0.61	0.56	0.53	0.57	-												
Classroom Factors																	
6. Grade	0.05	0.12	0.07	0.03	-0.02	-											
7. Class Size	0.01	0.01	0.05	-0.03	0.10	0.22	-										
Teacher Characteristics																	
8. Female	0.26	0.24	0.17	0.30	0.14	-0.13	-0.25	-									
9. Responsive Teaching	0.14	0.25	0.11	0.07	0.24	0.02	-0.38	0.11	-								
10. Bullying Disapproval	0.12	0.15	0.11	0.32	0.19	0.01	0.09	-0.01	0.01	-							
11. Empathy for Withdrawn	0.30	0.37	0.28	0.44	0.34	-0.08	-0.04	0.27	0.02	0.21	-						
Peer Ecology: Teacher Perceptions																	
12. Aggression	-0.28	-0.15	-0.20	-0.28	-0.25	0.09	-0.24	-0.11	0.06	-0.03	-0.13	-					
13. Prosocial	0.14	0.29	0.16	0.26	0.16	-0.01	-0.22	0.08	0.19	0.15	0.21	-0.12	-				
14. Teacher-Child Relationship	0.31	0.16	0.23	0.25	0.30	-0.10	0.08	0.10	0.04	0.02	0.11	-0.55	0.14	-			
Peer Ecology: Peer Perceptions																	
15. Aggression	0.08	0.00	0.19	0.05	-0.08	0.29	0.10	-0.02	-0.28	0.12	-0.07	0.25	-0.13	-0.14	-		
16. Prosocial	0.05	0.21	0.13	0.12	0.04	0.40	-0.20	-0.02	0.13	-0.08	-0.02	0.14	0.08	-0.14	-0.03	-	
17. Peer Community	0.03	0.02	-0.06	-0.02	0.18	-0.57	-0.29	0.21	0.38	0.09	0.09	-0.26	0.20	0.27	-0.51	-0.09	

Table 5

Predicting Teachers' Social Dynamics Management Strategies: Mitigating Status Extremes

	Model 1		Model 2		Model 3		Model 4	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Intercept	4.15 ***	0.10	3.79 ***	0.19	3.82 ***	0.19	3.92 ***	0.20
Distal Classroom Factors								
Grade	0.02	0.04	0.02	0.04	0.04	0.04	-0.03	0.05
Class Size	0.00	0.02	0.02	0.02	0.01	0.02	0.01	0.02
Teacher Characteristics								
Gender			0.38 *	0.19	0.32 +	0.19	0.35 +	0.19
Responsive Teaching			0.09	0.06	0.08	0.06	0.12	0.07
Bullying Disapproval			0.07	0.11	0.07	0.11	0.11	0.11
Empathy for Withdrawn			0.25 *	0.11	0.21 +	0.11	0.20 +	0.11
Peer Ecology: Teacher Perceptions								
Aggression					-0.16	0.15	-0.19	0.16
Prosocial Behavior					0.02	0.16	0.03	0.16
Teacher-Child Relationship					0.27 +	0.16	0.34 *	0.17
Peer Ecology: Peer Perceptions								
Aggression							-0.94	1.22
Prosocial Behavior							0.59	0.62
Peer Community							-0.37 +	0.21
Adjusted R Square	-0.02		0.10		0.15		0.16	
Adjusted R Square Change	-0.02		0.12 *		0.05 *		0.01	

Note. Unstandardized regression coefficients are reported. *SE* = Standard Error. Grade is coded as continuous. Gender is coded so 0 = Male.
*** $p < .001$. ** $p < .01$. * $p < .05$. + $p < .10$.

Table 6

Predicting Teachers' Social Dynamics Management Strategies: Supporting Isolated Students

	Model 1		Model 2		Model 3		Model 4	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Intercept	3.64 ***	0.11	3.30 ***	0.22	3.31 ***	0.22	3.46 ***	0.22
Distal Classroom Factors								
Grade	0.05	0.05	0.06	0.04	0.06	0.04	-0.04	0.06
Class Size	0.00	0.03	0.03	0.02	0.04	0.03	0.05 +	0.03
Teacher Characteristics								
Gender			0.37 +	0.21	0.36 +	0.21	0.41 +	0.21
Responsive Teaching			0.20 **	0.07	0.18 *	0.07	0.23 **	0.08
Bullying Disapproval			0.09	0.12	0.06	0.12	0.11	0.12
Empathy for Withdrawn			0.41 **	0.13	0.35 **	0.13	0.33 *	0.13
Peer Ecology: Teacher Perceptions								
Aggression					-0.03	0.17	-0.09	0.17
Prosocial Behavior					0.34 +	0.18	0.35 *	0.18
Teacher-Child Relationship					0.12	0.19	0.20	0.19
Peer Ecology: Peer Perceptions								
Aggression							-0.19	1.37
Prosocial Behavior							1.65 *	0.70
Peer Community							-0.37	0.23
Adjusted R Square	-0.01		0.21		0.23		0.27	
Adjusted R Square Change	-0.01		0.22 ***		0.02		0.04 +	

Note. Unstandardized regression coefficients are reported. *SE* = Standard Error. Grade is coded as continuous. Gender is coded so 0 = Male.
*** $p < .001$. ** $p < .01$. * $p < .05$. + $p < .10$.

Table 7

Predicting Teachers' Social Dynamics Management Strategies: Managing Problem Friendships

	Model 1		Model 2		Model 3		Model 4	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Intercept	3.99 ***	0.11	3.76 ***	0.22	3.78 ***	0.22	3.89 ***	0.21
Distal Classroom Factors								
Grade	0.03	0.04	0.03	0.04	0.04	0.04	-0.05	0.05
Class Size	0.01	0.02	0.03	0.02	0.02	0.03	0.04	0.03
Teacher Characteristics								
Gender			0.25	0.22	0.21	0.22	0.27	0.20
Responsive Teaching			0.09	0.07	0.08	0.07	0.18 *	0.08
Bullying Disapproval			0.06	0.12	0.05	0.12	0.09	0.12
Empathy for Withdrawn			0.28 *	0.13	0.25 +	0.13	0.21 +	0.12
Peer Ecology: Teacher Perceptions								
Aggression					-0.09	0.17	-0.26	0.17
Prosocial Behavior					0.11	0.18	0.14	0.17
Teacher-Child Relationship					0.23	0.19	0.22	0.18
Peer Ecology: Peer Perceptions								
Aggression							4.02 **	1.31
Prosocial Behavior							1.35 *	0.67
Peer Community							-0.18	0.22
Adjusted R Square	-0.02		0.06		0.07		0.22	
Adjusted R Square Change	-0.02		0.08 *		0.01		0.15 ***	

Note. Unstandardized regression coefficients are reported. *SE* = Standard Error. Grade is coded as continuous. Gender is coded so 0 = Male.
*** *p* < .001. ** *p* < .01. * *p* < .05. + *p* < .10.

Table 8

Predicting Teachers' Social Dynamics Management Strategies: Managing Aggression

	Model 1		Model 2		Model 3		Model 4	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Intercept	4.42 ***	0.09	4.08 ***	0.16	4.11 ***	0.16	4.24 ***	0.15
Distal Classroom Factors								
Grade	0.01	0.03	0.03	0.03	0.04	0.03	-0.05	0.04
Class Size	-0.01	0.02	0.00	0.02	-0.01	0.02	0.00	0.02
Teacher Characteristics								
Gender			0.35 *	0.16	0.30 +	0.15	0.35 *	0.15
Responsive Teaching			0.02	0.05	0.01	0.05	0.08	0.06
Bullying Disapproval			0.24 *	0.09	0.23 *	0.09	0.27 **	0.08
Empathy for Withdrawn			0.33 ***	0.09	0.29 **	0.09	0.26 **	0.09
Peer Ecology: Teacher Perceptions								
Aggression					-0.19	0.12	-0.29 *	0.12
Prosocial Behavior					0.13	0.13	0.16	0.12
Teacher-Child Relationship					0.13	0.14	0.18	0.13
Peer Ecology: Peer Perceptions								
Aggression							0.98	0.96
Prosocial Behavior							1.05 *	0.49
Peer Community							-0.37 *	0.16
Adjusted R Square	-0.02		0.25		0.30		0.37	
Adjusted R Square Change	-0.02		0.27 ***		0.05 *		0.07 **	

Note. Unstandardized regression coefficients are reported. *SE* = Standard Error. Grade is coded as continuous. Gender is coded so 0 = Male.
*** $p < .001$. ** $p < .01$. * $p < .05$. + $p < .10$.

Table 9

Predicting Teachers' Social Dynamics Management Strategies: Promoting Positive Behavior

	Model 1		Model 2		Model 3		Model 4	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Intercept	4.23 ***	0.11	4.10 ***	0.21	4.12 ***	0.21	4.16 ***	0.22
Distal Classroom Factors								
Grade	-0.02	0.04	-0.02	0.04	-0.01	0.04	-0.04	0.06
Class Size	0.02	0.02	0.05 *	0.02	0.04 +	0.03	0.05 *	0.03
Teacher Characteristics								
Gender			0.15	0.21	0.10	0.21	0.12	0.21
Responsive Teaching			0.22 **	0.07	0.20 **	0.07	0.22 **	0.08
Bullying Disapproval			0.13	0.12	0.13	0.12	0.14	0.12
Empathy for Withdrawn			0.37 **	0.12	0.33 **	0.12	0.32 *	0.13
Peer Ecology: Teacher Perceptions								
Aggression					-0.10	0.17	-0.14	0.17
Prosocial Behavior					0.07	0.18	0.07	0.18
Teacher-Child Relationship					0.30 +	0.18	0.30	0.19
Peer Ecology: Peer Perceptions								
Aggression							1.29	1.36
Prosocial Behavior							0.85	0.69
Peer Community							0.03	0.23
Adjusted R Square	-0.01		0.18		0.21		0.20	
Adjusted R Square Change	-0.01		0.19 ***		0.03 ***		-0.01	

Note. Unstandardized regression coefficients are reported. *SE* = Standard Error. Grade is coded as continuous. Gender is coded so 0 = Male.
*** *p* < .001. ** *p* < .01. * *p* < .05. + *p* < .10.