

EMPIRICALLY DERIVED PROFILES OF CLASSROOM MANAGEMENT STRATEGIES  
AND RELATED STUDENT OUTCOMES: A LATENT PROFILE ANALYSIS

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By

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EMPRICALLY DERIVED PROFILES OF CLASSROOM MANAGEMENT STRATEGIES  
AND RELATED STUDENT OUTCOMES: A LATENT PROFILE ANALYSIS

Presented by Ann G. Clare, a candidate for the degree of Doctor of Philosophy and hereby  
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## **DEDICATION**

This dissertation is dedicated to teacher and school personnel who work tirelessly, to create a positive learning environment. Your daily effort and passion for your students is inspiring.

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EMPIRICALLY DERIVED PROFILES OF CLASSROOM MANAGEMENT  
STRATEGIES AND RELATED STUDENT OUTCOMES: A LATENT PROFILE  
ANALYSIS

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Dr. Wendy M. Reinke, Dissertation Chair

**ABSTRACT**

Elementary school is an important part of children's development and disruptive behavior in the classroom can interrupt the development of academic and social behavior competence (Sutherland & Oswald, 2005). Problem behavior in the classroom often causes teachers to interrupt instruction and may influence others to engage in misbehavior. Therefore, effective classroom management strategies are essential for teachers to utilize. The purpose of this study was to investigate the multiple classroom management strategies which teachers use in the classroom and the effects those strategies have on their students' behavior and the teachers' level of burnout. Participants included 68 K-3<sup>rd</sup> grade teachers and the students in their classrooms. Latent profile analysis was conducted to develop profiles of multiple classroom management strategies used by teachers. Results indicated that teachers use variable rates of praise, behavioral expectations and instructional management. The model solution resulted in three profiles of multiple classroom management strategies. Profile 1, or those teachers using a 'typical' profile of classroom management strategies, used low rates of specific and general praise, moderate rates of reprimands and average amounts of behavioral expectations and instructional management. Profile 2, or those teachers using an 'ineffective' profile of classroom management strategies, used low rates of specific and general praise, moderate rates of reprimands and low amounts of behavioral expectations and instructional management. Profile 3, or those teachers using a 'proficient' profile of

classroom management strategies, used higher rates of specific and general praise than the other two profiles, similar rates of reprimands compared to the other two and average amounts of behavioral expectations and instructional management. Once teacher profiles were determined, differences among student variables were compared using the Mplus Auxiliary function (Muthén & Muthén, 2007). Significantly lower rates of aggression and a higher percent of time on task were found in classrooms in which teachers used a proficient profile of classroom management strategies. In addition to investigating the relationship between teacher classroom management profiles, teacher levels of self-efficacy in classroom management, prior training and experience were added to the model as covariates. None of these variables were significantly associated with the profiles of classroom management strategies. Further, the Mplus Auxiliary function (Muthén & Muthén, 2007) was utilized to determine if teacher classroom management profiles were related to teachers' level of burnout. Teacher classroom management profiles were not significantly related to teachers' level of burnout. Implications of these findings are discussed for school-based school psychological practice.

## **CHAPTER I: INTRODUCTION**

Children spend a majority of their waking hours in school. It is in school that children learn the academic and social/behavioral skills they will need to be contributing members of society. Elementary school is a key developmental setting for children; it is where they learn to share, make friends, read, perform calculations and interact with teachers and peers in an appropriate manner (Sutherland & Oswald, 2005). Success or failure to acquire these necessary skills can have a large impact on the student and depends on multiple factors, including the student, teachers and school environment. The key academic and social skills that children acquire while in elementary school can be stifled when children exhibit classroom disruptive and noncompliant behaviors (Colvin, 2009). Therefore, effective classroom management skills become paramount.

### **Context of the Problem**

Classroom management plays a critical role in the level of student disruption and academic engagement occurring in the classroom setting. Minor behavioral offenses often require teachers to stop instruction, and responding to these offenses consumes an unnecessary amount of teacher and student time (De Pry & Sugai, 2002). Classroom disruptions take away from instructional time and when students are off-task they miss out on academic material. Creating classrooms in which effective management strategies are present helps to develop an environment in which children's social and emotional development, in addition to academics, can be fostered (Walker, 2009). Furthermore, developing effective classroom management strategies is a more efficient method to create a positive academic and behavioral climate than targeting students individually (Reinke, Lewis-Palmer, & Merrell, 2008). School staff and classroom teachers must be

trained to use strategies that allow them to prevent and control problem behavior in order to maximize classroom instruction and learning (Colvin, Sugai, Good, & Lee, 1997). However, many teachers do not feel confident in their ability to manage those problem behaviors (Markow, Moessner & Horowitz, 2006; Reinke, Stormont, Herman, Puri, & Goel, 2011).

Teachers are the first line of defense when problem behaviors arise. Their belief in their ability to handle those behaviors and the myriad of other required tasks is described as teacher self-efficacy (Tschannen Moran, Woolfolk Hoy, & Hoy, 1998). Teachers with low self-efficacy are more likely to refer their students to other school personnel for assistance (Lane, Menzies, Bruhn, & Crnabori, 2011), have increased conflict with their students (Hamre, Pianta, Downer, & Mashburn, 2008), and experience more symptoms of burnout (Pas, Bradshaw, & Hershfeldt, 2012).

Further contributing to the importance of teachers having high efficacy in classroom management is the relationship between student problem behavior and burnout (Chang, 2009; Friedman, 1995; Haberman, 2004). Burnout includes feelings of cynicism, lack of accomplishment and being emotionally exhausted (Maslach, Jackson, & Leiter, 1996). Burnout also contributes to teachers leaving the profession within the first five years (NEA, 2003). Further, research has demonstrated a relationship between feelings of burnout and depression (Steinhardt, Smith Jagers, Faulk, & Gloria, 2011). Thus, it is necessary to investigate the relationship between classroom management practices, teacher self-efficacy and teacher burnout. There are a variety of classroom management strategies that have been demonstrated to be effective at improving academics and reducing classroom problem behavior. Simonsen and colleagues (2008)

found five categories of classroom management practices that have evidence to support their use. The categories include physical arrangement of the classroom, structure of the classroom environment, instructional management, procedures to increase appropriate behavior and procedures to decrease inappropriate behavior. Within these categories are specific teaching behaviors and practices that can improve the environment of and interactions in the classroom. Teacher behaviors include providing behavior specific praise, opportunities to respond (OTR), performance feedback to students, pre-corrections, explicit reprimands, implementing token economies and using active supervision (Kern, & Clemens, 2007; Simonsen et al., 2008). Classroom practices include providing and posting clear rules and expectations, using effective seating arrangements and instructional strategies, and having a schedule to provide predictability (Kern & Clemens, 2007; Simonsen et al., 2008).

Researchers have investigated the effects of these effective classroom management strategies on student outcomes. For example, researchers have found that mixing individual and choral responding during teacher led instruction decreases disruptions and off-task behavior (Haydon et al., 2010). In addition, the use of behavior specific praise is associated with increased student time on-task (Sutherland, Wehby, & Copeland, 2000). By simply increasing positive interactions between students and school staff, student problem behaviors decrease (Colvin et al., 1997). Reminding students of the expected, appropriate behaviors can lead to a decrease of inappropriate behaviors (Oswald, Safran, & Johanson, 2005). Also, responding to student mistakes or misbehaviors using brief, direct and discreet corrections, rather than extended or loud corrections, are more effective and lead to fewer mistakes in the future (Barbetta,

Heward, Bradley, & Miller; O’Leary & Becker, 1968). By purposefully incorporating effective classroom management strategies (such as specific praise and provision of OTRs) into classroom practice, children’s strengths can be fostered, negative outcomes of coercive interactions can be prevented, and academic and social development can be promoted (Sutherland, Conroy, Abrams, & Vo, 2010). This leads to students being successful academically. This intuitively makes sense: when students are engaged and paying attention in class, they have greater opportunity to learn the material being taught and less time to disrupt instruction. This relationship between behavior and achievement has been documented in the extant literature (Algozzine, Wang, & Violette, 2011). Despite the multitude of research on classroom management strategies and associated student outcomes, few studies have been conducted that evaluate teacher use of multiple strategies and how the combination of strategies may differentially impact student outcomes.

In order to create a classroom environment that promotes academic and behavioral development of students, teachers would ideally include a continuum of effective strategies in their classrooms. Furthermore, students in classrooms where teachers utilize a number of these strategies simultaneously would be expected to have higher levels of academic achievement and lower levels of classroom disruptive behaviors. Conversely, in classrooms where teachers utilize lower levels of these strategies, students would be expected to have higher levels of disruptive behavior and lower levels of academic achievement. Despite these assumptions, researchers typically focus on only one classroom management strategy at a time to improve student outcomes (e.g. Haydon et al., 2010; Sutherland et al., 2000). The current study will determine if

teachers utilize multiple classroom management strategies in their classrooms and investigate whether teacher use a variety of strategies are associated with student behavioral outcomes and teachers' level of burnout. Focusing on multiple classroom management strategies provides a more nuanced investigation of those strategies. This research hopes to determine whether teacher profiles of use of classroom management strategies differentially impact student outcomes. Further, the classroom strategies of interest are strategies that teachers can use that have been shown to impact student outcomes separately.

Research in the area of teaching styles includes overall teaching behaviors more generally. For instance, researchers use the established parenting style framework (authoritarian, authoritative and permissive; Baumrind, 1971) to guide investigations of teaching styles. Researchers suggest that having an authoritative teaching style (e.g., high levels of structure and expectations in conjunction with high levels of warmth and support) encourages student success socially and academically. Prior research has used student- and teacher-report measures to determine levels of various teacher behaviors in order to derive overall teaching styles (e.g., Dever & Karabenick, 2011; Gregory et al., 2010). For example, students respond to statements such as “Our math teacher cares about how we feel;” “Our math teacher accepts nothing less than our full effort” rating them as “*not at all true*” to “*very true*” (Dever, & Karabenick, 2011). While informative, this research is typically self-report of global constructs (i.e., teacher caring and academic press) and may be related to teacher personality traits. In order to gain more specific knowledge of the practices used in classrooms by teachers related to their classroom management and related outcomes, direct observation of teaching practices and resulting

profiles may be more helpful in understanding how to train and support teachers. To our knowledge research has not utilized direct observation of teacher behavior to determine teacher profiles on use of effective classroom management strategies. This current study focused on constellations of observable teaching strategies and investigated how they contribute to students' outcomes. The strategies investigated are not related to personality traits, but rather are strategies that can be taught and practiced through pre-service and in-service training.

This study uses latent profile analysis (LPA) an advanced statistical methodology for understanding teacher use of multiple classroom strategies and associated student outcomes. LPA is a person centered approach which provides a way of grouping individuals, rather than items or variables (e.g., factor analysis), into profiles based on shared characteristics that distinguish members of one profile from another (Nylund et al., 2005). LPA utilizes continuous latent variables to classify individuals into profiles, which can then be validated by investigating the association between these profiles and important outcomes.

### **Summary**

School entry is a critical developmental period for children; it is where they learn essential academic and social skills. However, disruptive behavior in the classroom interferes with the instruction and learning of those skills. Teachers are placed in the difficult position to manage student behaviors while continuing to provide instruction. The challenge of managing student behavior can cause additional stress for teachers, which may contribute to teacher burnout, leading to teachers leaving the profession prematurely. Effective classroom management strategies can reduce the frequency of

problem behaviors and prevent them from occurring, hopefully improving efficacy and reducing burnout. While we know that these individual strategies are effective, understanding how the number and type of strategies a teacher utilizes impacts student outcomes may support the field in developing effective pre-service training and consultation models for supporting teachers in developing and implementing these skills effectively. Effective pre-service training and in-service consultation in classroom management can increase teachers' efficacy related to using classroom management strategies. By providing training and on-going consultation to support teachers in their use of effective classroom management, ideally teacher burnout will be reduced and those leaving the profession prematurely will also be reduced.

### **Purpose of the Study**

The purpose of this study was to determine which classroom management strategies, and in what levels and combinations, are associated with better student behavioral outcomes. Further, the study investigated whether teacher level of efficacy in classroom management predicts teacher profiles of classroom management strategies. Lastly, the association between teacher profiles, teacher efficacy of classroom management, and teacher level of burnout were investigated. The current study furthers the knowledge of teacher use of classroom management practices in four ways. First, the study examined teachers' use of effective classroom management strategies, including general and specific praise, reprimands, classroom behavioral expectations, and classroom instructional management from a sample of elementary teachers. Latent profile analysis was utilized to determine the number and type of profiles of teacher use of these strategies based on classroom observations. Second, teacher reported self-

efficacy in classroom management, prior training in behavior management, education level and years teaching were added to the profiles to determine if they significantly contributed to the resulting profiles. Third, the association between the teacher profiles and student behavioral outcomes and the level of burnout experienced by teachers' were evaluated. Finally, the association between the teacher profiles and reported levels of burnout were evaluated.

The following research questions were addressed in this study:

1. What number and type of teacher classroom management profiles will emerge?

It was hypothesized that three teacher classroom management profiles would emerge. The first profile would be considered optimal and include high rates of praise, low rates of explicit reprimands and higher ratings on use of effective classroom practices (e.g., posting of rules, use of system to reward student behavior). The second profile, typical, would utilize moderate rates of praise, a moderate amount of explicit and harsh reprimands and moderate ratings on use of classroom practices. Finally, the third profile would be ineffective and will have low rates of praise, higher rates of explicit and harsh reprimands and low rating on use of effective classroom practices.

2. Are teacher level of self-efficacy with classroom management, prior training in behavior management, education level and years teaching significantly associated with teacher profiles?

It was expected that teacher reported levels of self-efficacy in classroom management would be significantly associated with the teacher profiles. Thus,

teachers with higher levels of self-efficacy would be those teachers with the optimal teaching profile; while those teachers with low self-efficacy would have ineffective profiles. Further, it was predicted that prior training in behavior management, higher levels of education and more years teaching would be significantly associated with the profiles. Those teachers with prior training in behavior management, higher levels of education and more years in teaching would be more likely to be in the optimal teaching profile; while those with no prior training in behavior management, lower levels of education and fewer years teaching would be more likely to be in the ineffective profile.

3. Are there significant differences between the teacher classroom management profiles with regard to levels of student problem behavior and student social competence?

It was hypothesized that students in classrooms with teachers within the optimal profile would have lower levels of problem behavior and higher social competence, compared to students in classrooms with teachers using typical or ineffective classroom management profiles. Further, students in classrooms with teachers with a typical profile would have lower problem behavior and higher social competence levels than students in ineffective classroom management styles. Students in classrooms which teachers demonstrate the ineffective classroom management profile would have the highest problem behavior and lowest social competence levels of the three groups.

4. Are there significant differences between the teacher classroom management profiles regarding self-reported levels of burnout?

It was also predicted that those teachers with an optimal teaching profile would have lower levels of self-reported burnout than in the other two classroom profiles. Also, those teachers with a typical classroom profile would have lower levels of self-reported burnout when compared to the teachers with ineffective teaching profiles.

## **CHAPTER II: REVIEW OF THE LITERATURE**

“The best teachers don’t simply teach content, they teach people” (Walker, 2009, pg. 122).

### **Classroom Management**

Classroom management is an important variable in the classroom environment, either enhancing or impeding teacher ability to provide academic instruction. Teachers’ use of effective instructional and behavioral strategies to support prosocial interactions in the classroom environment increases the likelihood that students will engage in desired behaviors (Sutherland, Lewis-Palmer, Stichter, & Morgan, 2008). Effective classroom management has been shown to decrease disruptive classroom behavior and increase academic engagement (Reinke et al., 2008; Sutherland et al., 2000). Effective instruction and classroom management can support student learning in general and special education and even prevent the development of mild disabilities (Stichter et al., 2009). Poor classroom management has been linked to long term negative outcomes including development of antisocial personality disorder, involvement with police and substance abuse (Kellam et al., 2008; Petras et al., 2008). Further, lack of classroom management can have a negative effect on the teachers in the classrooms. In a survey of teachers, student misbehavior was rated as one of the two highest sources of stress (Clunies-Rose, Little, & Kienhuis, 2008).

### **Teacher Self-Efficacy in Classroom Management**

While the need for effective classroom management is evident, only a minority of teachers feel they have the skills to support the diverse needs of their students and

maintain order and discipline in their classroom (Markow, Moessner & Horowitz, 2006; Reinke, Stormont, Herman, Puri, & Goel, 2011). Teachers are the primary source of interventions for students' problem behaviors, thus their feelings of confidence and skill in dealing with these behaviors are related to the effectiveness of the interventions (Gebbie, Ceglowski, Taylor, & Miels, 2012). Feeling a lack of preparation in maintenance of order and discipline in their classroom is a reason teachers leave the profession (Markow et al., 2006). In a national survey, a quarter of principals reported they feel that first time teachers lack the preparation to effectively manage classroom behaviors (Markow et al., 2006). In a survey of teachers in North Carolina, teachers identified managing behaviors of young children with disabilities as the top training request (Gebbie et al., 2012).

Teacher efficacy is the belief in one's ability to plan and act in the necessary manner to achieve a particular teaching goal in the appropriate context (Tschannen Moran et al., 1998). Teacher self-efficacy influences their ability to be flexible and resilient when things do not go as planned (Tschannen Moran et al., 1998). One measure of teacher efficacy, the Ohio State Teacher Efficacy Scale (Tschannen-Moran, & Hoy, 2001), assesses three factors of teacher efficacy, efficacy for instructional strategies, efficacy for classroom management and efficacy for student engagement.

Teacher lack of efficacy in classroom management skills can be detrimental to a teacher's effective instruction (Lane et al., 2011). A teacher's lack of efficacy in classroom management skills can lead to an increase in referrals for additional supports and a decrease in the use of positive preventive strategies (Lane et al., 2011). Having to interrupt instruction to reprimand students leads to a decrease in time spent teaching.

Hamre and colleagues (2008) found that teachers with lower self-efficacy and more depression reported more conflict with their students. Thus, students in classrooms in which teachers do not feel efficacious and feel depressed may be more likely to develop conflict with their teachers even if they do not exhibit problem behaviors.

Ongoing training in positive behavior supports, knowledge of additional resources and an online supportive community have been shown to be beneficial to increase teacher efficacy in beginning and experienced teachers (Gebbie et al., 2012). Higher levels of teaching efficacy may also help teachers to share some of the burden related to managing difficult behaviors when they feel the behaviors have exceeded their competence. Teachers confident in their classroom management ability were found to more likely to seek help within the school environment (Andreou, & Rapti, 2010).

In addition, research indicates that teaching efficacy is associated with teacher reported burnout. Pas and colleagues (2012) found that teachers reporting higher levels of preparedness in classroom and instructional management reported higher efficacy and lower burnout. Egyed and Short (2006) found that teachers with more training in behavior management reported higher levels of efficacy and lower levels of burnout. In a study of student teachers, Fives, Hamman and Olivarez (2007) found that as levels of efficacy increased, levels of burnout decreased, suggesting that increased efficacy may counteract feelings of burnout. Teacher efficacy is not only a concern for novice teachers.

### **Teacher Burnout**

Burnout is described as emotional exhaustion, cynicism, and reduced feelings of accomplishment (Maslach et al., 1996). Student problem behaviors are one major

contributor to teacher burnout (Chang, 2009). Moreover, student misbehaviors often lead to teacher feelings of exhaustion and nonaccomplishment, which contributes to teachers leaving the profession (Friedman, 1995; Haberman, 2004). As a result, nearly half of teachers leave the field in the first five years and one fifth report a wish to change professions if they could (NEA, 2003). Teachers feeling burned out are less able to respond to the academic, behavioral and emotional needs of their students (Steinhardt, et al., 2011). Many teachers enter the field with the intention of making a difference in their students' lives. Therefore those interactions that occur within the classroom have an impact on teachers' emotional well-being, level of burnout and intention to leave the field (Martin, Sass, & Schmitt, 2012).

Maslach and colleagues (1996) developed the Maslach Burnout Inventory (MBI) to measure professionals' levels of burnout related to job stress. The MBI uses three subscales to measure three aspects of burnout, "emotional exhaustion, depersonalization, and lack of person accomplishment" (Maslach et al., 1996, pg. 4). The first subscale is Emotional Exhaustion, which is defined as feeling exhausted and emotionally overwhelmed from one's work (Maslach et al., 1996). The next subscale is Depersonalization, which is defined as a lack of feeling or distant response to one's professional practice or clients (Maslach et al., 1996). The final subscale is Personal Accomplishment, which is defined as one's feeling of achievement and proficiency toward work (Maslach et al., 1996).

Work-related stress directly relates to depressive symptoms and all three aspects of burnout, emotional exhaustion, depersonalization and personal accomplishment (Steinhardt et al., 2011). Furthermore, those three aspects of burnout also contribute to

levels of depression (Steinhardt et al., 2011). Martin and colleagues (2012) found that when teachers are unable to effectively engage their students, they have an increased level of stress and decreased feelings of personal accomplishment.

In an investigation of factors impacting the fidelity of implementation of the Good Behavior Game, Wehby, Maggin, More Partin and Robertson (2012) found that teacher burnout was negatively associated with fidelity of procedures when implementing the Game. However, they also found that a positive relationship between the implementation coach and the teacher might mitigate the negative outcomes of teacher burnout on treatment fidelity. Egyed and Short (2006) investigated the relationship between teacher burnout and decision to refer a child to special education. Their research found that teachers' reported level of burnout significantly predicted their decision to refer a child to special education. More specifically those teachers who reported higher levels of burnout were uncertain whether or not to refer and those teachers with lower levels of burnout had decided to either refer or not. Thus, teachers with lower levels of burnout either feel they are capable of dealing with the problem behavior in their classroom or they are confident that special education is the best answer; whereas those teachers with higher levels of burnout may be uncertain about their abilities to manage the child in their classroom and neither option will help the child. Further, Skaalvik and Skaalvik (2007) demonstrated a strong, inverse relationship between teacher burnout and self-efficacy. Thus, as teachers' self-efficacy increases, their reported level of burnout decreases.

## **Effective Classroom Management**

Having a structured, captivating, and positive environment establishes a classroom which encourages student learning and cooperation. However, many teachers struggle to implement some effective classroom practices. In a survey of pre-service teachers, researchers found that although preventive techniques were reported to be successful, they were used less frequently than corrective ones (Reupert, & Woodcock, 2010). Contradicting the finding by Reupert and Woodcock (2010), in another survey of teacher behaviors, it was reported that proactive strategies are more likely to be used than reactive ones (Clunies-Ross, Little, & Kienhuis, 2008). Researchers and trainers need to identify methods to maximize the training and transfer of these evidence-based classroom management practices into the classroom (Simonsen et al., 2008).

Simonsen and colleagues (2010) suggested that training in classroom management involve explicit instruction, feedback regarding performance and focusing on skills that are evidence-based, including teachers' increased use of pre-corrections, opportunities to respond and specific praise. In order to implement these strategies, teachers need to be supported with training, mentoring and feedback. For instance, researchers have observed increases in specific praise following performance feedback (Reinke et al., 2008; Sutherland et al., 2000). Fives and colleagues (2007) suggest that by providing student teachers with more opportunities to increase their teaching efficacy prior to entering the field, the likelihood of experiencing burnout will decrease. Lane and colleagues (2011) discuss the benefits of having a school-wide program to support the implementation of effective, proactive classroom management; however they recognize that the infrastructure may not be possible in all schools. Some programs that help to

support the implementation of classroom management are School-Wide Positive Behavior Interventions and Supports (Horner et al., 2009), The Good Behavior Game (Barrish, Saunders, & Wolf, 1969), and the Incredible Years Teacher Training program (Webster-Stratton, Reid, & Hammond, 2004).

Developing a positive classroom environment likely takes multiple classroom management strategies. Some of the components of a well-managed classroom include the physical arrangement of the classroom, the teacher's approach to discipline, routines and management of paperwork (Lane et al., 2011). In addition, a teacher's personal qualities and behavior patterns impact the classroom climate; both verbal and nonverbal actions play an active part in the classroom climate. Given that a teacher's use of classroom management skills contribute to the classroom environment and the classroom environment has a large impact on both teacher and students behavior (Kern & Clemens, 2007; Simonsen et al., 2008), it is important to identify those strategies or combination of strategies that produce the greatest positive impact. There are strategies teachers can use to prevent the incidence of problem behavior in their classroom (Kern & Clemens, 2007; Simonsen et al., 2008). The use of antecedent strategies (e.g. developing class-wide behavioral expectations, using more praise than reprimands, using pre-corrections ) not only prevent problem behavior from occurring, but also bolster the learning environment (Kern & Clemens, 2007). Further, these antecedent strategies often demonstrate immediate effects. Two final advantages of using these antecedent strategies include matching the classroom environment to students' skills and creating an environment in which students are better able to learn. For example, to reduce aggressive acts and increase academic engagement for a student who was low functioning, as part of a more

complex intervention, interventionists addressed task difficulty and provided breaks for difficult academic tasks (Kern, Gallagher, Starosta, Hickman, & George, 2006). Further, teachers' use of reactive classroom management strategies, such as such as rewards, punishments, lectures and threats, predicted teacher stress (Clunies-Ross et al., 2008). Those teachers using reactive strategies were more likely to experience stress related to their workload, difficulties with time and resources, relationships with colleagues and misbehavior by students. This finding highlights the importance of teachers using more proactive, rather than reactive, classroom management strategies. Not only have proactive strategies been shown to be effective at reducing and preventing student misbehavior, but they are more likely to lead to reduced levels of stress in teachers. Considering the negative effects stress and burnout can have on teachers, utilizing proactive strategies can be beneficial to both teachers and students.

Class-wide strategies are named as the most efficient way in which to begin managing student behavior (Kern & Clemens, 2007). Teacher behaviors that can prevent the occurrence of disruptive behaviors include use of praise, provision of opportunities to respond and pre-corrections. In addition, there are ways to respond to inappropriate classroom behavior that minimally interrupt instruction and do not damage the positive classroom environment. One of these methods is the use of explicit reprimands, or error correction (Simonsen et al., 2008). These brief statements, which identify the observed behavior and inform the student the desired behavior, take little time out of instruction, do not require the teacher to raise his/her voice and informs the student what he/she should be doing. An example would be, "Sarah, you are standing. Please sit criss cross applesauce on your carpet spot".

Classroom management strategies can be categorized into ones which proactively influence student behavior, while others respond to student behaviors. There are many classroom management strategies which can be categorized as being preventive. In their review of evidence-based classroom management strategies Simonsen and colleagues (2008) discussed twenty strategies which have been supported by other research to improve academic engagement and reduce student disruptions. Students have been found to exhibit more appropriate academic and social behaviors by maximizing structure in the classroom (Kern & Clemens, 2007; Simonsen et al., 2008; Trussell, 2008). Strategies to maximize structure in the classroom include finding a balance of teacher direction and student independence and physically organizing the classroom in a manner which reduces crowding and distractions. Another type of strategy is posting, teaching, reviewing, and reinforcing expectations (such as “Be Safe, Be Respectful, Be Responsible”; Kern & Clemens, 2007; Simonsen et al., 2008; Trussell, 2008). Teachers can promote positive classroom behaviors by actively monitoring student adherence to classroom expectations. Furthermore, actively engaging students in instruction using opportunities to respond, response cards, direct instruction, computer assisted instruction class-wide group contingencies and guided notes can prevent them from engaging in other, inappropriate classroom behavior (Kern & Clemens, 2007; Simonsen et al., 2008; Trussell, 2008).

Classroom management strategies which occur in response to student behaviors include having a continuum of strategies to acknowledge appropriate and inappropriate behavior (Simonsen et al., 2008). Strategies to acknowledge appropriate behaviors include providing specific or contingent praise, class-wide group contingencies, behavioral contracting and token economies (Kern & Clemens, 2007; Simonsen et al.,

2008; Trussell, 2008). To respond to inappropriate behavior teachers can use error corrections, performance feedback, differential reinforcement, planned ignoring, response cost, and time out from reinforcement (Simonsen et al., 2008). While all of the strategies mentioned here have been shown to be effective, teachers who spend time up front preventing behavior problems, will spent less time correcting problem behavior and thus have more time to spend on instruction.

The following provides more in-depth information about specific classroom management strategies. These strategies include teacher use of praise, reprimands, opportunities to respond, and precorrections. In addition, classroom structure, use of behavioral expectations, and instructional management are discussed.

### **Praise**

Praise is defined as a way to commend value of or to express approval for something (Brophy, 1981). Increasing the rate of praise is a seemingly simple task in which teachers can engage that will have an impact on student behavior (Kern & Clemens, 2007). For praise to be effective it must be contingent, specific and sincere (Brophy, 1981). Contingent, specific and sincere praise is a positive statement, which occurs after a desired behavior, informs the student of the desired behavior in which they engaged, and is varied according to the situation and student preferences (Brophy, 1981; Simonsen, et al., 2008). By using specific praise, the student is provided reinforcement to encourage that behavior in the future. Recognizing students for following classroom rules promotes a positive climate and encourages them to continue to exhibit the appropriate behaviors (Colvin, 2010; Lane et al., 2011). Providing feedback provides students with information regarding teacher expectations and student progress (Trussell,

2008). In the past, research has found that teachers are more likely to praise correct answers compared to criticizing incorrect answers (Brophy, 1981). Interestingly, teachers were less likely to praise good behavior compared to criticizing poor behavior (Brophy, 1981).

For students with behavioral difficulties, such as those with emotional and behavioral disorders (EBDs), praise is rarely provided by their teachers (Sutherland et al., 2000). In addition, specific praise comprises a small fraction of the praise students receive. Students with histories of behavioral difficulties may require praise for minor behavioral successes to assist them in building their behavioral repertoire (Moore Partin, Robertson, Maggin, Oliver, & Wehby, 2010). In a review of research on teacher praise statements, Brophy (1981) found overall low levels of praise, with praise occurring about five times per hour or less.

Research has demonstrated that increasing the number of praise statements and providing clear expectations also leads to a reduction in reprimands (Reinke et al., 2008). One way to help teachers increase their levels of praise, especially specific praise is by providing visual or verbal feedback to teachers regarding their use of both types of praise. This method has been demonstrated as a simple, effective way to increase teacher rates of praise (Reinke et al., 2008; Sutherland et al., 2000).

Research has shown that praising students' appropriate behavior will increase the likelihood of future appropriate behavior and decrease the occurrence of disruptive behavior (e.g. Reinke et al., 2008). Sutherland and colleagues (2000) found that when a teacher of students with EBDs increased his rate of specific praise, student on task

behavior also increased. This study occurred in an ABAB design and during the baseline and withdrawal portions of the study, teacher praise and student on-task behavior were lower than during the intervention phases of the study.

### **Positive to Negative Ratio**

Yet another challenge for teachers is to maintain a ratio of more positive than negative statements. Having a ratio of more positive to negative feedback creates an environment in which students' efforts are recognized. Trussell (2008) recommends a ratio of 4:1 positive to negative statements. Additionally, in their review of the literature, Stichter and colleagues (2009) determined that the optimal rate of contingent, specific and credible praise to be 3:1 or 4:1. To maintain this ratio, it is suggested that when negative feedback is given, the teacher works to provide that student four positive statements (Trussell, 2008). Through implementation of a class-wide behavior management strategy, the benefits of using fewer negative statements were determined, including higher levels of student on-task behavior and lower levels of talking out (Leflot et al., 2010). Leflot and colleagues (2010) found that the Good Behavior Game reduced the number of negative statements some of the teachers provided and this resulted in more on-task behaviors and less talking out from those students. For those teachers, there was an approximate 1:1 ratio of positive to negative statements made. Using a mediation model, Leflot and colleagues (2010) demonstrated that increased student on-task behavior and reduced talking out behavior slowed the growth of hyperactive and oppositional behavior from the beginning of second grade to the end of third. Thus, by reducing negative statements, teachers can indirectly curb the development of hyperactive and oppositional behavior (Leflot et al., 2010).

Despite the benefits of reducing negative statements, there are still instances in which a high praise to reprimand ratio are not maintained. For instance, researchers have found, in an analysis of classroom observations of Title I and non-Title I schools, that students in Title I schools received smaller positive to negative feedback ratios (Stichter et al., 2009). Utilizing a consultation process to work with teachers to increase their praise statements, Reinke and colleagues (2008) demonstrated that by increasing praise statements (both general and behavior specific) student disruptions were decreased. It was found that by increasing praise statements, reprimands toward students also decreased; although it was not an aim of the study. Teacher rates of total praise in the final phase of the study ranged from 1.42 to 2.98 and rates of reprimands ranged from .13 to .68; which roughly translate to a four to one ratio. Sutherland, Wehby & Copeland (2000) found both general and specific praise statements to increase with their classroom intervention. General praise statements increased from 3.3 to 4.7 per observation period and specific praise statements increased from 1.3 to 7.8 per observation period over the course of the study. These increases in praise were related to increases in student on-task behavior. These studies demonstrate the effects praise can have on student behavior, by increasing on-task behavior and decreasing disruptions. However, this research did not evaluate if the increased on-task behavior and decreased student disruptions were related to higher academic achievement.

### **Opportunities to Respond**

An opportunity to respond (OTR) is described as a chance for students to actively respond to a request or material of an academic nature (Kern & Clemens, 2007). Optimal rates for opportunities to respond vary according to student familiarity with the

instructional material; new material can include 4 to 6 opportunities per minute, while prior material should include 8 to 12 opportunities per minute (Moore Partin et al., 2010). Two methods of opportunities to respond include choral responding and response cards (Simonsen et al., 2008). Another factor involved in OTRs is teacher use of instructional talk. Instructional talk involves providing directions, explanations, and other information to students about the academic activities, information, and strategies (Trussell, 2008). In order to increase learning and decrease problem behaviors, it is recommended that teachers engage in instructional talk for 40-50 percent of any lesson (Trussell, 2008). Positive prompts are instances in which the teacher directly asks for student responses (Trussell, 2008). These are designed to increase student engagement in the lesson. Also, involved in OTRs and instructional practice is wait time. Wait time is described as the amount of time a teacher allows for students to provide a response to a question or other prompt (Trussell, 2008). Providing at least three seconds for students to formulate a response has been shown to increase achievement (Tobin, 1987). Allowing appropriate wait time can reduce student frustration resulting from having their thoughts interrupted.

Positive outcomes for students can happen when strategies to effectively increase OTRs are implemented (Simonsen et al., 2008). In an early study on OTRs, Carnine (1976) compared fast and slow presentation of instructional material with two subjects. It was found that fast presentation of material decreased student off task behavior, and increased the number of questions answered correctly and participation. Investigating the impact visual and verbal feedback had on increasing OTRs in a classroom of students with emotional and behavioral disorders, Sutherland and colleagues (2003) found that students exhibited fewer disruptions, had more correct responses and increased task

engagement. It is hypothesized that by having more opportunities to actively participate in lessons and therefore increasing the number of correct responses, classroom behavior was positively affected. By training six teachers to increase their opportunities to respond, Haydon and colleagues (2010) investigated the effects of three different types of OTRs and their effects on six students', who were at risk for a diagnosis of EBD, levels of disruptive and off-task behavior. For five out of six students, a mixed method of OTRs, including both individual and choral opportunities, resulted in a reduction in observed disruptive behaviors. Also, five out of the six students demonstrated a lower mean percentage of time off task during the mixed method. In Haydon and colleagues (2010) research on different types of OTRs, the teachers in the study were observed to provide 4.5 to 5 OTRs per minute, which has been recommended by other researchers. They also found that some methods of utilizing OTRs were more effective at reducing student disruption than others. For instance, when comparing individual, choral and mixed methods for active student responding, mixed responding (using both individual and choral responding during the observation) was the most effective for reducing disruptive behavior and increasing on task-behavior, followed by choral responding, with individual responding being the least effective (Haydon et al., 2010).

### **Pre-corrections**

Prior to a student entering a situation associated with instances of problem behavior, a teacher may provide a pre-correction (De Pry & Sugai, 2002). Pre-corrections are designed to provide an advanced directive indicating behavioral expectations. A pre-correction may be a verbal prompt, a gesture, an opportunity to practice or a reminder of the reinforcement for exhibiting appropriate behaviors. Pre-

corrections are a proactive classroom management technique that teachers can utilize to prevent problem behaviors from occurring in their classroom. Pre-corrections are simple and can be completed in little time (De Pry & Sugai, 2002).

Using visual performance feedback to investigate the effects of a combination of increasing teachers' use of active supervision and pre-corrections, De Pry and Sugai (2002) observed decreases in minor student misbehavior in the classroom. In another study, training playground supervisors to use active supervision and engaging the school-wide discipline team to focus on using pre-corrections for the playground demonstrated positive results. During recess on the playground, a combination of active supervision and pre-corrections reduced the amount of student problem behavior during unstructured activities (Lewis, Colvin, & Sugai, 2000). Pre-corrections can also be utilized during problem transition times (Colvin, Sugai, Good, & Lee, 1997). Colvin and colleagues (1997) trained supervisory staff to effectively use reminders and pre-corrections. By reminding students of the expected behaviors prior to entering problem transition settings (including entering the building, the cafeteria and exiting the building), problem behaviors were greatly reduced. It is recommended that pre-corrections, in combination with active supervision, should be part of a teacher's repertoire of effective classroom management practices (De Pry & Sugai, 2002).

### **Classroom Structure**

Arranging classrooms which have clear walkways and few barriers will help students to avoid bumping into each other and disrupting others' work (Trussell, 2008). Research has found that crowded rooms may lead to problem behaviors (McGill, Teer, Rye, & Hughes, 2003). In addition to walkways and barriers, the arrangement of

students' desks has an effect on student behavior (Kern & Clemens, 2007). Research has demonstrated that seating students in rows can increase engagement and work completion while decreasing the amount students talk out (e.g. Wheldall, & Lam, 1987; Wheldall, Morris, Vaughan, & Ng, 1981). In addition to being able to move about the classroom freely, students should be able to access needed materials without difficulty (Trussell, 2008). When students are able to reach the pencil sharpener or book shelf with ease, this will lead to fewer disruptions. Increasing the predictability in a classroom is another way to increase engagement and decrease problem behaviors (Kern & Clemens, 2007). Creating a schedule for each day and routines for the classroom will increase the predictability in the classroom. Routines can be created for filing paperwork, entering and leaving the classroom, lining up for transitions, and getting students' attention. As with classroom rules, establishing a schedule and routines work best when they are started at the beginning of the year. Because "unscheduled time is an open invitation for disruptive behavior" teachers should create and display a daily schedule (Trussell, 2008, pg. 182). Having a schedule reduces the amount of downtime in a classroom, maintains order and ensures a majority of the day is spent in academic activities. Visually displaying the schedule will allow students to know which activity occurs at which time.

Another situation, which has the possibility to lead to disruptive student behavior, is when students enter or leave the classroom. Students often leave the classroom to work individually or in small groups. The manner in which they return can cause considerable disruption; therefore a procedure can be established so they reenter the classroom in a non-disruptive manner (Trussell, 2008). In addition, when students complete independent seat work, students may finish at different rates. Delineating

procedures for turning in completed work helps to avoid confusion and disruptions associated with when and where to turn in work (Trussell, 2008). The process should be quick and quiet, to avoid disruption of other students.

While allowing students the opportunity to respond to teacher questions and to ask questions is valuable, there needs to be a procedure for how and when students should ask and answer questions (Trussell, 2008). Without an established routine for asking and answering questions, students will be calling out during inappropriate times. Many times, teachers have students raise their hands; however, the manner in which students raise their hand needs to be clearly defined, taught and practiced. Furthermore, the teacher needs to respond to the correct hand raising procedure in a consistent manner.

### **Behavioral Expectations**

Having clear behavioral expectations in the classroom and entire school has been linked to safer school environments (Horner et al., 2009), increased reading and early literacy scores (Horner et al., 2009; Volpe, Young, Piana, & Zaslofsky, 2012), increased use of prosocial skills (Sharp, Brown, & Crider, 1995), and increased academic engagement (Volpe et al., 2012). The number of rules in a classroom should not be more than five (Sugai & Horner, 2002). Keeping the number of rules to a minimum increases the likelihood that students will remember them. Students can also be involved in the development of classroom rules. This creates a sense of involvement. Effective class rules are clear, short and positively stated (Sugai & Horner, 2002). This provides students with instructions on what they should be doing, rather than what they should not be doing. When classroom rules are unclear, students are more apt to not follow them (Trussell, 2008).

The rules should be posted and easy for all to read. By posting classroom rules in a visible area, they are clear and students are more likely to be aware of them (Trussell, 2008). A visitor to the classroom should be able to find the rules without trouble. Posting the rules provides opportunities for the teacher to refer to and review the rules throughout the school year and frequently reminds students what to do (Kern & Clemens, 2007; Simonsen et al., 2008). In addition, students should be able to state the classroom rules and expectations (Trussell, 2008). Only when all of students can state the classroom rules and expectations can they be expected to follow them. The teacher can also spend time teaching, modeling and practicing to ensure students know the classroom expectations (Kern & Clemens, 2007). Sharp, Brown and Crider (1995) found that when behavioral expectations were taught in physical education class, students exhibited more conflict resolution and leadership behaviors and those social behaviors generalized into regular education classes.

### **Instructional Management**

Teacher directed activities provide needed structure to a classroom (Simonsen et al., 2008). During those teacher-led activities a brisk instructional pace has been shown to produce increase levels of on-task behavior (Kern & Clemens, 2007). This can be attained by increasing the speed of lessons or by decreasing the amount of wait time between student responses and introduction of the following task. This faster pace of instruction is beneficial because it increases opportunities to respond.

Direct instruction is one way to utilize a brisk pace of instruction while also providing multiple opportunities to respond (Carnine, Silbert, Kame'enui, Tarver, & Jungjohann, 2006). Direct instruction involves systematic and explicit instruction

(Carnine et al., 2006). These teaching practices can be used in small group or whole class instruction. In a large, federally funded study on education, students who received direct instruction methods made the largest gains in basic skills, cognitive reasoning, and self-esteem (Gersten, Keating, & Becker, 1988). In other studies, students exposed to direct instruction have been found to have improvements in academic achievement and on-task behavior (Becker & Gersten, 1982).

One common source of student problem behavior and disengagement is a mismatch between skill level and task difficulty (Kern & Clemens, 2007). The ideal level of difficulty is at the instructional level (Gickling & Armstrong, 1978). Instructional level is defined as the level of work with a student is moderately challenged. At this level, known elements within the work range from 70 to 85 percent for seatwork and 93 to 97 percent for individual reading assignments. The other part of the work is composed of challenging elements, which are new to the student. Other levels of work include frustrating, which is composed of a lower percent of known elements and independent, with is composed of a higher percentage of known elements than both instructional and frustrating. Providing work that is at a student's instructional level will promote appropriate student behavior (Kern & Clemens, 2007). Research has demonstrated that providing students with math and reading work at their instructional level increases task completion, comprehension, and learning and increases time on task (Burns, Coddling, Boice, & Lukito, 2010).

### **Reprimands**

While it is important for teachers to have more positive to negative feedback statements, it is also critical that teachers have a continuum of strategies to respond to

inappropriate behavior (Simonsen, et al., 2008). A challenge for teachers is to respond in a planned, automatic and smooth, or fluent, manner to problem behavior (Colvin, 2010). Responding in this way to disruptive behavior is likely to reduce the occurrence of problem behavior in the future. On occasion, when teachers stop their instruction to reprimand a student, the student's behavior is reinforced (Colvin, 2010). For students who demonstrate inappropriate behavior, attention from teachers or peers is often the maintaining function of the misbehavior. Thus, when the teacher stops instruction to reprimand the student, he or she is giving attention to the student for that behavior, increasing the likelihood that the student will engage in that behavior in the future in order to gain attention from the teacher. In order to discourage the student from engaging in the behavior in the future, a brief, unemotional reprimand should be delivered to provide the least amount of attention to the student and his/her behavior.

The strategies utilized in the classroom to respond to inappropriate behaviors should be based on evidence-based practices and occur within a system that is positive and proactive (Lane et al., 2011). Error corrections, also known as explicit reprimands, involve a concise statement, provided after an undesired behavior, which indicates the undesired behavior and the behavior which is desired in the future. "Johnny, you are talking. Please keep quiet when in the hall," is an example of error correction. Research has shown error correction to be effective in increasing the frequency of desired behaviors and academic outcomes (e.g. Abramowitz, O'Leary, & Futersak, 1988; Barbetta, Heward, Bradley, & Miller, 1994). Explicit reprimands, while being a reactive strategy to manage classroom behavior, are the preferred method to respond to inappropriate behaviors, especially when compared to the use of harsh reprimands.

Harsh reprimands include threats, lengthy reprimands and sarcastic responses to student misbehaviors. Unlike explicit reprimands, harsh reprimands do not inform the student of what he/she did incorrectly or the behavior in which to engage in the future.

### **Multiple Strategies of Classroom Management**

Research has demonstrated many strategies that have an effect on student behavior, academic engagement and overall classroom climate. However, those strategies are often investigated alone, rather than in combination. Ideally teachers would use a variety of classroom management strategies, including praise, explicit reprimands, and OTRs, to promote appropriate student behavior, academic engagement and a positive classroom environment. Recently, researchers have increased their focus on increasing the use of multiple classroom management strategies.

Sutherland, Adler and Gunter (2003) focused on increasing OTRs and the effect it would have on student behavior using an ABAB design. During the intervention phase, teacher OTRs increased to approximately 3.5 per minute. Praise statements were also measured and after the first introduction of the intervention, praise statements also increased to .3 to .45 per minute. Student outcomes demonstrated increases in correct academic responses and time on task and a decrease in disruptions. Sutherland and colleagues (2003) investigation of OTRs begins to show the effect classroom management strategies can have on both student behavior and potentially student academics.

Kim and Stormont (in press) observed rates of pre-corrections, specific praise, redirections and reprimands to determine the relationship between teachers' beliefs, classroom practices, and children's behavior problems. They found positive correlations

between reprimands and developmentally inappropriate beliefs and observed problem behaviors.

In addition, Simonsen and colleagues (2010) investigated the effect a training and feedback program would have on the behavioral prompts, OTRs and specific praise with three teachers. They found increases in teacher use of each of the classroom management strategies by the end of the feedback session. However, data was not reported on the effects this increase in teacher classroom management strategies had on the students in the classroom.

Moore Partin and colleagues (2010) worked with teachers to audio record instruction and self-evaluate their use of praise and OTRs. In this study one of the teacher's use of OTRs increasing to nearly 100 in a fifteen minute period (6.67 per minute) and use of praise statements increasing to nearly 30 in a fifteen minute period (2 per minute). As with the Simonsen et al. (2010) study, student outcomes were not reported.

### **Programs Which Support Effective Classroom Management**

While research discusses the benefits of effective classroom management strategies, they can be difficult to implement in the classroom without support. There are different programs that have been implemented at the universal level and have provided guidance and support for classroom management strategies. Positive Behavioral Interventions and Supports (PBIS) is a systems approach to create a school climate and provide additional behavioral supports as needed in order to ensure all students are academically and socially successful (Horner et al., 2009). The three tiered model of PBIS was modeled after the three tiered public health model and provides primary,

secondary and tertiary prevention (Horner et al., 2009). The PBIS model actively works to prevent problem behaviors by monitoring students and school data and intervening early when problems arise (Horner et al., 2009). One goal of PBIS is to provide learning and social environments that support students and prevent problems (Trussell, 2008). The universal practices that occur at the primary level of support include academic assistance, teaching of social skills, instruction in school-wide behavioral expectations, supervision and monitoring of all school areas, positive reinforcement, consistent and equitable discipline and successful classroom management practices (Trussell, 2008). Within the primary level of PBIS a small set of behavioral expectations are defined, taught, monitored and rewarded (Horner, et al., 2009). Those behavioral expectations are applied to all students in all school settings. At this level of the tiered model of PBIS, the goal is to establish a school culture which supports appropriate behavior. Furthermore, within this culture, teachers and students can take full advantage of teaching and learning. Students should experience this school climate as positive, safe, predictable, and consistent. Teachers comprise a majority of the school staff responsible for implementing expectations at the universal level (Reinke et al., 2011).

Another classroom intervention to effectively manage classrooms is the Good Behavior Game (GBG; Barrish, Saunders, & Wolf, 1969). Developed by a classroom teacher, the GBG strives to promote positive classroom behaviors and rewards student teams for demonstrating those behaviors (Kellam et al., 2008). It is a class-wide intervention which works to develop prosocial behaviors in the classroom. The game aims to reduce early exhibitions of aggressive and disruptive behavior at both the individual and classroom level. In longitudinal studies of the effectiveness of GBG in

first and second grade, multiple positive outcomes have been demonstrated, especially for the males rated as the most aggressive and disruptive in first grade (Kellam et al., 2008). Students in GBG classrooms, compared to control classrooms, had lower rates of drug abuse/dependence; and for males rated as the highest risk, those in the in the GBG group had rates of drug abuse/dependence at half the rates of control group (Kellam et al., 2008). Further, the lifetime development of antisocial personality disorder for the males in the GBG group rated as the most aggressive and disruptive in first grade was half that of the males in the control group rated as the most aggressive and disruptive in first grade (41% versus 86 %; Kellam, et al., 2008). In another study integrating the GBG with enhancements to the academic instruction, researchers found that the students in the classroom intervention, compared to the control students, had significant improvements in reading and overall academic achievement, high school graduation, college attendance and reductions in use of special education services (Bradshaw, Zmuda, Kellam, & Ialongo, 2009). In addition, effect sizes were found to be larger for boys than girls. While increasing praise statements and decreasing negative statements are not specific goals of the GBG, observations of its implementation have demonstrated significant increases in praise from teachers and reductions in negative remarks (Leflot et al., 2010). The longitudinal research conducted on the GBG demonstrates the long term, positive impacts that effective classroom management can have on students, even into their early adult years.

Yet another method to promote classroom management is the Incredible Years Teacher Training program (IYTT; Webster-Stratton, Reid, & Hammond, 2004). IYTT is a group-based video modeling intervention which focuses on teachers' strategies for

handling misbehavior, strengthening social skills and fostering positive relationships with difficult students (Webster-Stratton, Reid, & Hammond, 2004). This intervention has been found to have effects on both children's and teachers' behavior. In a pilot study using a model of the IY teacher training program, teachers' warmth, positive behaviors and the classroom environment improved (Baker-Henningham, Walker, Powell, & Gardner, 2009). In addition, children's appropriate behaviors increased as did their interest and engagement in the classroom activities. In another study, the IY teacher curriculum changed teachers' classroom management strategies and reduced conduct problems in the classroom (Webster-Stratton, Reid, & Stoolmiller, 2008). It was found that those classrooms that had the poorest initial scores benefitted the most from the intervention. When combined with child and parent training programs, reductions in conduct problems and increases in social competence with peers were seen at school, and increases were maintained at a one year follow-up (Webster-Stratton et al., 2004).

### **Teacher Classroom Management Styles**

Prior research has investigated particular classroom management strategies and how the strategy has an effect on student outcomes, teacher behaviors and classroom climates (Haydon et al., 2010; Simonsen et al., 2010; Sutherland et al., 2000.). However, there are multiple factors that contribute to the classroom climate and may play a role in the student outcomes. Much of the previous research has only focused on single teacher variables, such as levels of discipline or caring. Recent research has broadened from the examination of individual classroom management skills to include the impact of general teacher style and teacher profiles on student outcomes (e.g. Curby et al., 2009; Dever & Karabenick, 2011; Gregory et al., 2010; Walker, 2008). By considering teacher profiles

and styles, multiple dimensions of teacher characteristics and behaviors, and their effects on student outcomes, can be analyzed. By investigating the construct of teacher style, researchers can determine optimal levels of structure and warmth, in addition to other characteristics and behaviors.

Teaching style research is based on the study of parenting styles and their effects on childhood outcomes (Dever & Karabenick, 2011). Most notable in the parenting style research is Baumrind's (1971) finding of four parenting styles, authoritative, authoritarian, permissive, and neglectful. These styles varied on measures of responsive/caring and demanding, receiving ratings of high or low in each dimension. In Baumrind's (1971) research it was found that authoritative parenting, high in both responsive/caring and demanding, has the most positive child outcomes in psychological and academic domains. The two dimensions of demanding and responsiveness involve the developmental processes of control and maturity (Walker, 2009). Parents categorized as authoritative exert control but also adjust the level depending on the maturity level of the child. One study examining parental tutoring and problem-solving strategies found that parents who provided additional support after their children had difficulty solving long division math problems, while also not interfering with autonomy after success, were the better tutors (Pratt, Green, MacVicar, & Bountrogianni, 1992).

To investigate the effects of teaching styles on student outcomes, researchers have applied the parenting style framework to the school setting. In the school setting, responsiveness/caring of teachers comprises one dimension and teacher demand or control is referred to as academic press (Dever & Karabenick, 2011). Teacher caring describes the warmth the teacher directs toward students, and academic press describes

the expectations a teacher has for the students. Under this framework, authoritative teaching style rates high in both teacher caring and academic press. Prior studies have investigated these dimensions independently. For example, Croninger and Lee (2001) looked at dimensions of teacher support and guidance as rated by students. They found that students having better relationships with teachers were less likely to drop out of school.

Dever and Karabenick (2011) investigated middle and high school teaching styles in a sample of mostly Hispanic students. Students completed self-report surveys of their perception of their teacher as caring, academically challenging and demanding effort (academic press). Additionally, because math teachers were the focus of the study, student interest in and preference for math and mathematical achievement from the previous year were also measured. Using Baumrind's (1971) terminology, authoritative teachers would be rated as high in both caring and academic press, authoritarian teachers would be rated as low in caring and high in academic press, permissive teachers would be high in caring and low in academic press and neglectful teachers would be low in caring and academic press. For students of all ethnicities, academic press was positively associated with interest and achievement. However, increased levels of teacher caring were associated with lower achievement gains for students of all ethnicities. The authoritarian teaching style predicted a pattern which best supported mathematics academic achievement for students of all ethnicities (Dever & Karabenick, 2011). Interestingly, given the research on use of praise indicating a positive relation with academic engagement one would expect to have found that caring was also positively

related to academic gains. Thus, additional research bridging concrete directly observed teacher behaviors and student outcomes is warranted.

In other research, Walker (2008) examined teacher styles using a parenting styles framework (e.g., Baumrind, 1971). Walker used student report of teacher behaviors and principal input to classify three teachers: authoritative (e.g. highly demanding, supporting autonomy, control of classroom and responsive to student needs), authoritarian (e.g. highly demanding, moderately responsive to student needs, not supporting student autonomy), and permissive (e.g. inconsistent demands, not supportive of student autonomy). The teachers varied on levels of demandingness (autonomy support) and responsiveness (warmth) and used similar levels of mastery and performance practices. Walker (2008) observed classrooms and coded teacher statements as supportive (or not) related to the task, classroom control and development of autonomy. She found that fifth-grade students in an authoritarian classroom had lower social and academic self-efficacy than peers in the permissive and authoritative classrooms. In addition, those students in the permissive classrooms made lower academic gains than peers in the other classrooms. This study supports the use of both demanding and responsive classroom environments. Permissive classroom likely had lower use of academic and social expectations and less use of effective behavior management and instructional practices. By observing classrooms to record teacher statements of support related to the task, classroom control and autonomy, Walker's (2008) study supports the need for further investigation of teacher behaviors and their effects on student achievement and development.

Additional research on the styles of school settings by Gregory and colleagues (2010) applies the parenting style framework to high school school-wide discipline practices. The dimensions investigated were structure, defined as the consistent and fair enforcement of rules, and support, defined as adolescent perceptions of their teachers as caring and supportive. Gregory and colleagues (2010) found structure and support to be positively correlated, meaning students felt that in schools where rules were strictly enforced, the adults were also more supportive. In addition, student perceptions of structure and support were associated with less bullying and victimization.

Finally, Curby and colleagues (2009) used data collected from a pre-kindergarten quality study to determine the relationship between profiles of teacher-child interactions and the students' gains in academics and social competence. The profiles used in the analysis were developed from a prior study (LoCasale-Crouch et al, 2007) investigating three dimensions: emotional support for learning, organizational support for learning, and instructional support for learning. Curby and colleagues (2009) found that students in classrooms rated higher in instructional support made greater gains in academics and those students in classrooms with higher emotional support were rated highest in social competence.

While research on teaching styles provides important information, little research has been conducted that investigates profiles of teacher observed use of effective classroom management practices and related student outcomes. Research on teacher profiles of classroom management practices can expand on existing literature about effective classroom environments. For instance, researching teacher profiles provides a way for researchers to examine various combinations of teacher variables, including

effective classroom management strategies, allowing for a determining the optimal levels of each to support positive student outcomes. Further, research evaluating teacher practices, teacher profiles and student outcomes can support the development of preventive and intervention strategies. Through research investigating multiple, observable classroom management practices, teacher education, professional development and consultation will be informed of those practices which are beneficial to student and teacher outcomes, including reducing student disruptive behavior, increasing student achievement, increasing teacher efficacy and decreasing teacher burnout.

### **Summary**

There is a plethora of research demonstrating effective classroom management strategies and the benefit they have on student academic and behavioral outcomes. Some of these strategies include having clear and positive expectations, using contingent and behavior specific praise, having routines, presenting instructional material at an optimal pace and reducing negative statements. Research has demonstrated evidence-based classroom management strategies are effective at increasing student engagement and decreasing disruptive behaviors. In order to provide children with educational environments that support both their academic and behavioral needs, effective universal classroom practices need to be in place. It is likely that teachers who are effective use multiple, evidence-based classroom management strategies. Teaching style research has attempted to capture this idea that teachers use a number of strategies to improve student outcomes. However, teaching style research is limited because the constructs measured are often related to innate personality characteristics and thus, are difficult to translate into training programs and practice. Whereas, investigating profiles of observed teacher

behaviors can inform training, practice, and feedback and will have practical implications for school psychologists. Without effective classroom management strategies, such as the use of praise, class-wide behavioral expectations and instructional management, in place, educators will have difficulty determining those children who are truly at risk for academic or behavioral failure. Furthermore, current educational policies place much emphasis on improving student academic achievement. However, more emphasis needs to be placed on providing teachers with methods and strategies within a tiered system to attain those higher standards of student achievement and social and behavioral competence. Many teachers have to battle with disruptive behaviors while attempting to provide effective instruction.

In order to implement these strategies, teachers need to be supported with training, mentoring and feedback. Simonsen, Myers, and DeLuca (2010) found that by providing explicit training in critical skills and presenting performance feedback, teachers increased their use of pre-corrections, OTRs and specific praise. Other researchers have also observed increases in specific praise following observation and feedback (Reinke et al., 2008; Sutherland et al., 2000). The classroom strategies discussed have research to support their implementation in the classroom to increase in academic engagement and time on task and reduce disruptive behaviors (Kern & Clemens, 2007; Simonsen et al., 2008). Thus, research supports this relationship between behavior and academic achievement (Algozzine, Wang, & Violette, 2011) and the potential for increased use of effective teaching strategies.

However, many of the research studies focus on only one or two classroom management strategies and student behavioral outcomes only. Furthermore, while the

research demonstrates the need and practical implications for having effective classroom management strategies, researchers have not fully demonstrated the optimal level and intensity of which to implement these strategies in order to achieve beneficial student outcomes. Also, researchers have not adequately addressed the need for attention to teachers using combinations of the various classroom management strategies and their impact on student achievement.

### **Current Study**

Thus, the current study will fill a gap in the research by investigating teacher use of multiple teacher classroom management strategies. Direct observation of teacher behavior will be utilized to evaluate differential use of classroom management strategies among elementary teachers. Further, a combination of observer ratings and teacher reports will be utilized to evaluate profiles of teacher use of classroom management strategies and their relationships to teacher training, years of experience, teacher efficacy, teacher level of burnout, and student academic and behavioral outcomes.

There is a need for research of student and teacher behaviors using direct observations (Sutherland & Oswald, 2005). In prior studies of teacher styles and classroom management, student and teacher report were used to determine the style of the teacher. By utilizing a variety of observed classroom management strategies to determine teacher profiles this study will provide a more nuanced approach to conceptualization of classroom management strategies. Although exploratory in nature, the results of the study will inform researchers and practitioners which profiles of strategies produce the greatest effect on students' social competence and problem behaviors. Further, the resulting teacher profiles classroom management strategies can guide professional

development of in-service teachers and training programs for pre-service teachers. The results of this study can guide pre-service institutions to provide education students with the strategies they will need to effectively manage classrooms. By providing students with the training prior to entering the field, ideally will increase their self-efficacy in classroom management. On-going consultation in classroom management once in the field will bolster their self-efficacy in classroom management strategies. If teachers are able to employ optimal levels of classroom management strategies as soon as they enter the classroom and continue to receive support in implementing those strategies, they may experience less burn out and be less likely to leave the profession early.

The results of this study add to the literature in multiple ways. First, the study utilized observation data to develop teacher profiles. Using this objective data has the potential to inform the field regarding to the levels of the teacher behaviors which are most effective for successful student outcomes. Further, the resulting profiles can inform research on the variety of classroom management strategies which teachers use in the classroom. Second, this study investigated if teacher self-efficacy in classroom management is associated with the profiles of classroom management strategies. In addition, the impact teacher variables, including prior training in behavior management, education level and years teaching, had on teachers' assignment to profiles were examined. This information can help prepare teachers to manage minor classroom behaviors with a higher level of self-efficacy and inform instructors of the appropriate amount of pre- and in-service training teachers need to effectively implement classroom management strategies. Third, the study investigated whether teacher classroom management profiles affect student outcomes. Prior research has demonstrated the effect

individual classroom management strategies have on students (e.g. Horner et al., 2009; Leflot et al., 2010; Sutherland et al., 2000); this study will add to the research by demonstrating the effect profiles of multiple classroom management strategies have on student behavior. Finally, the relationship between teachers' reported levels of burnout and classroom management profiles was examined.

Specifically, the following research questions were addressed in this study:

1. What number and type of teacher classroom management profiles will emerge?
2. Are teacher level of self-efficacy with classroom management, prior training in behavior management, education level and years teaching significantly associated with teacher profiles?
3. Are there significant differences between the teacher classroom management profiles with regard to levels of student problem behavior and student social competence?
4. Are there significant differences between the teacher classroom management profiles regarding self-reported levels of burnout?

It is predicted that three types of teacher classroom management profiles will emerge, optimal, typical and ineffective. An optimal teaching profile would have high rates of praise, low rates of explicit reprimands and higher ratings on use of effective classroom practices, including posting of behavioral expectations and instructional management. A typical teacher profile will have moderate rates of praise and explicit and harsh reprimands, and moderate ratings on use of effective classroom practices. An ineffective teacher will have a low rate of praise, higher rates of reprimands, and low rating on use of effective classroom practices.

As a result of these teacher behaviors, students in classrooms with optimal classroom management profiles will have fewer disruptive behaviors and increased time in which they are on-task. It is predicted that students in classrooms with optimal teaching profiles will have higher rates of social competence and lower rates of problem behavior in comparison to the other profiles. Those students in typical classrooms will have higher social competence and lower levels of problem behavior than students in the ineffective classrooms.

It is also predicted that teacher with higher levels of efficacy will be associated with the optimal teaching profile. Thus, teachers with higher levels of self-efficacy in classroom management will use more effective strategies. Teachers with an optimal classroom management profile will likely have more years of experience teaching, obtained an advanced degree and have prior training in classroom management. Further, teachers with an optimal teaching profile will have lower levels of self-reported burnout than in the other two profiles. Also, those teachers with a typical classroom profile will have lower levels of self-reported burnout and higher levels of self-efficacy when compared to the teachers with ineffective teaching profiles.

## **CHAPTER III: METHODS**

The following section provides an overview of the research methods, including a description of research participants and setting, variables, and data analytic procedures.

### **Participants & Setting**

Participants were teachers participating in a large group randomized control trial evaluating the IY TT program from a large urban school district in the Midwest and students in their classrooms. Baseline data from year one and two of the project were included in this study. Participants included teachers of kindergarten through third grade and students in their classrooms. For the purposes of this study we utilized baseline measures of observed teacher classroom practices, teacher reported self-efficacy in classroom management, teacher reported burnout, level of education, years teaching and prior training in behavior management and teacher reported student social behavior, and observed student classroom behaviors.

Year one participants included 34 kindergarten through third grade teachers from three elementary schools. Of the students in those 34 classrooms, 577 students from Kindergarten to third grade were consented across the three schools. School one had 327 students enrolled, of which 98 percent are African American and 67.9 percent qualified for free/reduced lunch. There were 351 students at school two. Student demographics at school two included 59 percent Caucasian, 37 percent African American and 4 percent other. Forty three percent of the students qualified for free/reduced lunch. School three had 416 students, of which 98 percent were African American and 63 percent qualified for free/reduced lunch.

Year two participants include 34 kindergarten through third grade teachers placed at three elementary schools (schools four, five and six). Of the students in those 34 classrooms, 581 students from grades Kindergarten to third grade were consented across the three schools. School four had 390 students enrolled, of which 64 percent were African American and 62 percent qualified for free/reduced lunch. There were 385 students at school five. Student demographics at school five included 34 percent Caucasian, 61 percent African American and 5 percent other. Forty one percent of the students qualified for free/reduced lunch. School six had 451 students, of which 98 percent were African American and 90 percent qualified for free/reduced lunch.

In total 68 teachers and 1,158 students across 6 schools were included in the study. Teacher demographics are presented in Table 1. All teachers participating in the larger study provided written consent for inclusion in the study. In addition, parents of students in the study provided written consent and students provided written assent for inclusion in the study. All data was collected in compliance with the Institutional Review Board at the University of Missouri as well as the participating school district.

All six schools in the study had been implementing Positive Behavior Interventions and Supports (PBIS) with fidelity prior to the beginning of the study. PBIS is an approach to systemic and individual behavior interventions to promote positive behaviors and learning (Sugai, & Horner, 2008). To prevent problem behaviors from occurring, school teams develop positively stated behavioral expectations for all staff and students to follow (PBIS, 2011). Teachers and staff explicitly instruct students the behavioral expectations and what behaviors are expected in each school setting (e.g. restroom, cafeteria, and classroom). Adults teach, model, and provide feedback to

students regarding their exhibition of the behavioral expectations. Further, PBIS focuses on reinforcing students for displaying the appropriate behaviors, such as providing specific praise to students. Schools implementing PBIS also have a continuum of consequences for identified inappropriate behaviors. Due to the focus of PBIS on positively worded expectations, specific praise for appropriate behavior and a continuum of consequences for inappropriate behaviors, teachers in schools implementing PBIS with fidelity would have exposure to some effective classroom management strategies.

Table 1

*Teacher Demographics*

Teacher Demographics	Statistics	
Race/Ethnicity	African American	24%
	Caucasian	76%
Sex	Male	4.4%
	Female	95.6%
Years in Education	Average	12.5
	Maximum	32
	Minimum	1
Years Teaching	Average	11.75
	Maximum	29
	Minimum	1
Years at Current School	Average	7.3
	Maximum	21
	Minimum	0

**Study Variables**

The study variables included direct observation of teacher and student behavior and teacher report of efficacy, burnout, and student academics and social behaviors. The following provides a description of indicators used to determine teacher profiles of

classroom practices, predictor variables, and outcome variables utilized as part of the study.

### **Indicators Utilized for Teacher Profiles**

**Direct Observation of Teacher Behaviors.** Teacher classroom behaviors were gathered using handheld devices utilizing Multiple Option Observation System for Experimental Studies (MOOSES; Tapp, & Wehby, 1995) software. MOOSES is software that enables researchers to easily collect real time observational data (Vanderbilt University, 2011). The software allows for easy download onto a computer and analysis of the data. The MOOSES system also allows for inter-observer agreement observations. During observations, trained observers carry a small, hand-held device.

The frequency of general praise, specific praise, and total reprimands were recorded using the Student-Teacher Classroom Interaction Observation (ST-CIO; Reinke & Newcomer, 2010; See Appendix A for operationalized definitions). Each student in the classroom was observed for five minutes while simultaneously observing teacher behaviors. Five minute observations occurring within each classroom on the same day were aggregated (e.g., 10, 5-minute observations equals a baseline classroom observation of 50 minutes) to determine rates of teacher behaviors during the baseline observations. Observers were trained by the principal investigator and research assistants to use the MOOSES system and the ST-CIO. Training began with the introduction of behavioral definitions of each of the variables to be observed (specific and general praise statements, explicit and harsh reprimands, student disruptions, student aggression, and duration codes of student time on task and teacher teaching). After the MOOSES system and ST-CIO behavioral definitions were introduced, observers watched videos of classrooms to

practice using the system and become reliable. Once the observers were comfortable with the observation in the lab, they began observing and coding in vivo with a partner to ensure reliability. Once observers were determined to be reliable (85% overall or higher), they were able to observe independently.

**Opportunities to respond.** An opportunity to respond (OTR) was defined as an instructional prompt that requires immediate academic response to the teacher. OTRs include statements, gestures, or visual cues. An example of an OTR is “Wendy, what is 2 + 2?” OTRs were coded when an academic question was asked of a specific student or of the whole group. Another example would include the teacher directing the class “Please write the answer to number five on your white boards and hold them up when you are finished.” For OTRs that are choral responses, each discrete response was coded as an OTR. For example, if the teacher were pointing to letters in the alphabet, “A, ‘a’, apple” would count as one OTR and B, ‘b’, bat” would count as another. When coding for a target student, if the teacher is working in a small group that does not include the target student, any OTRs given to the small group were not counted. Singing, dancing, stretching and spelling tests were not coded as OTRs. Instances of students reading lines from a play were coded as OTRs for each time a student read his/her part.

**Praise.** Praise statements were classified as being general or specific. General praise is defined as a praise statement or gesture, which indicates approval and does not name a specific behavior. Examples of general praise are “thank you”, “great job”, “correct answer” and “good question”. Specific praise is defined as a verbal statement or gesture which indicates approval and names a specific behavior. Examples of specific praise are “Thank you for answering”, “Good thinking”, “Thank you for sitting quietly”,

“Aaron has his eyes on me” and “I’m looking for line basics. Sarah has line basics, so does Jenny. And Claire does too.” The last example would be coded as three specific praises. Specific and general praise are coded during each observation depending on whether they are directed toward the target student or another student. If praise is directed at the whole class or a small group in which the target student is part, it is coded as praise-other.

**Reprimands.** During classroom observations, reprimands made by the teacher were coded as explicit or harsh reprimands. An explicit reprimand was defined as a verbal comment or gesture made by a teacher to indicate disapproval of behavior; it is concise and in a normal speaking tone. Examples of explicit reprimands include “Eyes on me please” when students are not looking at the teacher and should be, or “Hands to self” when one student is touching another student. A harsh reprimand was defined as a verbal comments or gesture which indicates disapproval of behavior using a voice louder than typical for setting or harsh, critical or sarcastic tone. Examples of harsh reprimands include a teacher saying sarcastically “What a surprise, your work isn’t finished”, or teacher if teacher raises voice to say “Look up here, I am talking”. Additionally, data was recorded depending on if the reprimand was made to the target student (reprimand-target) or another student (reprimand-other). During observations, if the reprimand was directed toward the whole or small group in which the target student belonged, it was coded as a reprimand-other.

**Pre-corrections.** Pre-corrections occurred when the teacher provides specific prompts or reminders about the behavior expectation before a behavior is needed. Prompts regarding academic expectations were not coded as a pre-correction. An

example of a pre-correction is “Remember to raise your hand if you have a question”. A non-example of a pre-correction is during instructional time if several students shout out an answer and the teacher responds “Remember to raise your hand to answer”.

**Classroom Ecology.** The *Classroom Ecology Checklist* (CEC; Reinke & Lewis-Palmer, 2005) was used to record aspects of the classroom ecology. After each observation period with the MOOSES system, the trained observers completed the CEC based on their observations during the time in the classroom. Observers rated teachers in areas of classroom structure, behavioral expectations, instructional management, interacting positively, responding to appropriate behavior, responding to inappropriate behavior and persistence coaching. Cronbach’s alpha for this measure is 0.86. The following scales were included in the study: Section B: Behavioral Expectations and Section C: Instructional Management. Behavioral Expectations has four items: 1) classroom routines and expectations are clearly defined, stated in the positive and posted, 2) it is easy to figure out the classroom expectations when observing the class, 3) when the teacher uses an attention getting signal, over 80% of the students respond within a few seconds and 4) transitions between activities occur smoothly without interruption caused by behavior problems. Instructional Management has seven items: 1) the teacher gains the attention of all students at the beginning of a lesson or transition, 2) based on the review of the classroom schedule and observation it appears that 70% or more of class time is allocated to academic instruction, 3) the students are observed as engaged during classroom instruction, and there is a high rate of engagement, 4) the teacher provides an appropriate pace with an optimal number of opportunities to respond while adjusting for complex content, 5) the teacher solicits both group and individual responses to questions

with an effort to provide the majority of students with individual opportunities to respond, 6) the students generally answer questions with a high rate of accuracy during teacher-led instruction, and 7) the teacher uses effective error correction such as telling, showing or demonstrating the correct answer, rather than saying “no” or wrong”. For most of the items observers rate the teachers at levels of yes, somewhat and no, regarding the presence of the behaviors or classroom features. The ratings of ‘yes’, ‘somewhat’ and ‘no’ were converted to 3, 2, and 1 respectively in order to conduct statistical analyses. For some of the items, observers could indicate not observed, if the behavior or feature was not observed during the observation period. For the statistical analysis, the average scores for each section were used to determine teacher profiles. The range of mean scores for Section B: Behavioral Expectations was a minimum of 1.00, meaning that all four items were indicated as ‘no’, and a maximum of 3.00, meaning that all four items were indicated as ‘yes’. The range of mean scores for Section C: Instructional Management was a minimum of 1.14, meaning that all six of the seven items were indicated as ‘no’ and one item indicated as ‘somewhat’, and a maximum of 3.00, meaning that all seven items were indicated as ‘yes’.

### **Teacher Variables Associated with Profiles**

To determine if this relationship exists, teachers were asked to complete items regarding their level of efficacy related to classroom management, years teaching, highest degree obtained and experience with classroom management training.

**Teachers Sense of Efficacy Scale.** The *Ohio State teacher efficacy scale* (OSTES) was developed to create a measure of teacher self-efficacy that is valid and reliable (Tschannen-Moran, & Woolfolk Hoy, 2001). The OSTES has a long and short form to

measure teacher efficacy in student engagement, instructional strategies and classroom management. Using factor analysis these three scales have been found to be correlated for both the long and short form. To determine the construct validity of this scale, the developers assessed the correlation between this measure and other measures of teacher efficacy. The OSTES was significantly correlated to other items of teacher efficacy. The OSTES demonstrated 0.18 and 0.53 correlations with the Rand 1 and Rand 2 self-efficacy items, respectively, (Armor et al., 1976) and 0.16 and 0.64 correlations with the Hoy & Woolfolk (1993) General Teaching Efficacy and Personal Teaching Efficacy measures, respectively. Thus, the OSTES is a reliable and valid measure of teacher efficacy.

For this study, the eight items on the subscales of teacher self-efficacy of classroom management were given to teachers to answer. Teachers responded to each item by indicating the amount they can do regarding each item, from “*nothing*” (0) to “*a great deal*” (9). Teachers’ mean scores for this subscale will be included in the analysis. The developers of the OSTES found a mean score of 6.7, with a standard deviation of 1.1, for the self-efficacy in classroom management subscale.

**Teacher years of experience, highest degree, and training in classroom management.**

In the beginning of the study, all participating teachers completed a teacher survey to gather background information. Number of years working as a teacher and highest degree completed were included in the analysis as covariates. In addition, whether they have had eight or more hours of classroom management training in the last three years (a yes or no question) were included. It was hypothesized that, although not a

focus of the study, these variables may contribute to the use of effective classroom management strategies.

### **Dependent Variables**

To determine if there is a relationship between teacher profiles and student outcomes, observed student behavior and teacher report of student behavior were utilized. Further, to determine if there was a relationship between teacher profiles and teacher reports of burnout, teachers completed a burnout inventory.

**Teacher Report of Student Behavior.** The *Teacher Observation of Classroom Adaptation Checklist* (TOCA-C) was completed by all teachers for each student (Koth, Bradshaw, & Leaf, 2009). The TOCA-C was designed to be a more efficient version of the TOCA-R (Werthamer-Larsson et al., 1991), which was more time consuming and costly to administer. Reliability with the TOCA-R was conducted by correlating the interview and checklist versions of the scales. Correlations for the two versions of each scale were .91 for Concentration Problems, .86 for Disruptive Behavior and .85 for Prosocial Behavior. An Exploratory Factor Analysis was conducted for the first three subscales and the items loaded on the expected factors with loadings between .47 and .88. The TOCA-C includes the following seven subscales: concentration problems, disruptive behavior, prosocial behavior, emotional regulation, internalizing problems, family problems, and family involvement. For the prosocial behavioral and family involvement subscales, higher scores indicate more positive outcomes; whereas higher scores for the other subscales indicate more problems. Each item is rated on a six point scale, with 1 “never” to 6 “almost always”. Cronbach’s Alpha for concentration problems is .95, for disruptive behavior .91; and prosocial behavior is .88. For the scale of emotion

regulation Cronbach's Alpha is .87, for internalization it is .86, for family problems it is .82 and family involvement had an alpha of .93. These scores indicate that the TOCA-C is a reliable and valid measure of student behavior.

**Teacher Social Competence.** The *Revised Teacher Social Competence* (TSC) measure was originally used in the Fast Track Project. Fast Track is an intervention project investigating children's development and implementing academic, social skills and behavioral interventions (Fast Track Project, 2010). It was developed to combine two previous measures into a more efficient scale, reduce overlap with other scales and organize items by content to reduce response bias (Gifford-Smith, 2000). The scale includes 17 items assessing social behavior, including prosocial behavior, emotional regulation, and academic competence. Each item is rated on a six point scale, with 0 "almost never" to 5 "almost always". Cronbach's Alpha for Prosocial Behavior is .93, for Emotion Regulation .88; and Academic Competence is .91. These scores indicate that the TSC is a reliable and valid measure of student behavior. Prosocial Behavior and Emotional Regulation are highly intercorrelated (.81) and a summated score combining items across scales has been created (alpha .95). Further, modest intercorrelations were found between academic competence and the other subscales.

**Direct Observation of Student Behaviors.** Observations of teacher and student behaviors (see Appendix A for operationalized definitions) occurred concurrently using the MOOSES system and ST-CIO. Each student was observed and the following behaviors were coded. Five minute observations occurring within each classroom on the same day were aggregated (e.g., 10, 5-minute observations equals a baseline

classroom observation of 50 minutes) to determine rates of student behaviors during the baseline observations.

**Disruption.** A disruption was coded when a student displays a behavior which disturbs or has the potential to disturb the class. Disruptions were coded when the disruption was performed by the target student or any other student in the class. A disruption occurred when a student would ask a question or make a comment that was unrelated to the subject matter. Frequently a disruption was followed by a reprimand. A ‘call out’ was not coded as a disruption if the teacher ignored it, only if the teacher responded with a reprimand. A disruption was coded if the target child was not following teacher directions and the teacher provided proximal praise to a student who was following directions.

**Aggression.** An act of aggression was coded when a student was physically or verbally aggressive toward an object, peer or teacher. Since aggression is a form of disruptive behavior, when aggression was coded disruption was not. Aggression was coded even if there was no teacher reprimand, as often aggressive acts occurred when the teacher was not looking. Examples of aggressive behavior included hitting a peer, swearing at a peer, flipping off the teacher, or yelling ‘shut up’ at a peer. If the act of aggression was reported by another student but not observed, it was not coded as aggression. Also, if two students were calling each other names, the incident was coded as two aggressive acts, one for each student.

**Percent of Time On-task and Off-task.** During each target students’ observation, they were coded for time on-task and off-task. These variables were measured using duration codes. Prior to changing each duration code, a 2 second count

was utilized prior to switching the code. Being on-task was defined as the student being engaged with instructional content or activity by choral responding, raising hand, responding to teacher instruction, listening, writing, reading or otherwise completing assigned task. If the student was passively engaged, he/she was coded as being on task. The target student was coded as being off-task when he/she is obviously not working on the assigned task or attending to the task or lesson. To be coded off-task, the student was obviously off-task.

**Teacher Burnout.** The *Maslach Burnout Inventory* (MBI) was completed by all teachers to measure their levels of burnout. Burnout is described as emotional exhaustion, cynicism, and reduced feelings of accomplishment (Maslach, Jackson, & Leiter, 1996). The MBI uses three subscales to measure three aspects of burnout, “emotional exhaustion, depersonalization, and lack of person accomplishment” (Maslach, Jackson, & Leiter, 1996, pg. 4). Scores on each scale are considered separately. Respondents answer on a seven point scale from 0 “*never*” to 6 “*every day*”. Cronbach’s alpha for the Emotional Exhaustion subscale was .90; .79 for Depersonalization; and for Personal Accomplishment was .71. Test-retest reliability for these three subscales fell in the low to moderately high range, but was significant beyond the .001 level. Factor loadings of the items for the three subscales support the use of three subscales for the inventory. In the teacher sample of the MBI, for the subscale of Emotional Exhaustion, scores of less than 16 were in the ‘low’ burnout category, scores from 17-26 were in the ‘average’ burnout category and scores greater than or equal to 27 were in the ‘high’ burnout category. For the subscale of Depersonalization, scores of less than 8 were in the ‘low’ burnout category, scores from 9-13 were in the ‘average’ burnout

category and scores greater than or equal to 14 were in the 'high' burnout category. For the subscale of Personal Accomplishment, higher scores are desired; thus scores of greater than 37 were in the 'low' burnout category, scores from 36-31 were in the 'average' burnout category and scores less than or equal to 30 were in the 'high' burnout category.

### **Statistical Analysis**

**Overview.** Latent Profile Analysis (LPA) was applied to the following continuous indicators to investigate the underlying structure of teacher classroom management behaviors: rate of general praise, rate of specific praise, rate of total reprimands, average score on section B of CEC (Behavioral Expectations) and section C of CEC (Instructional Management). Within the profiles, the teacher behaviors were locally independent. For this study, the resulting profiles indicated the co-occurrence of classroom management strategies within the profiles. The goal of the analysis was to identify the smallest number of profiles that characterizes the composite of teacher behaviors. The results of the identified profiles are expressed in the mean rate of use of classroom management strategies.

To determine model fit, all analyses used Mplus 6.1 (Muthén & Muthén, 2011). There are multiple indicators that were used to determine model fit, including a combination of statistical considerations and applicable theory. Consideration was given to the Bayesian Information Criterion (BIC, Schwartz, 1978), Akaike Information Criterion (AIC; Akaike, 1987), the sample size adjusted BIC (aBIC; Sclove, 1987), the Vuong-Lo-Mendel-Rubin likelihood difference test (VLMR; Vuong, 1989; Lo, Mendall, & Rubin, 2001), the recently developed Parametric Bootstrap Likelihood Validation Test

(Mplus 5.2), and entropy. Using LPA, the BIC statistic was examined after each additional model is identified. The BIC was expected to decrease as more profiles are identified. When the value of the BIC increases, rather than decreases, the previous model was likely to be the best representation of the data. Additionally, entropy statistics also were used to indicate how well the model classifies people, where values closer to 1 indicate better classification. However, entropy was examined keeping additional model fit indices in mind.

In subsequent analyses, latent class regressions (LCR) were conducted to determine if teachers' reported self-efficacy in classroom management, years teaching, highest degree obtained and prior training in classroom management were significantly associated with the classroom management profiles. LCR is very similar to multinomial logistic regression analysis with the exception that the criterion in LCR (profiles) remain latent and each case retains a probability of being in each class rather than being forced into a single observed class.

Next, the Mplus Auxiliary function (Muthén & Muthén, 2010) was used for all continuous dependent variables. This method derives profile membership based on the observed risk factor scores and uses the posterior probabilities to compute means for each dependent variable (observed variables disruption, aggression, time on task, and time off task, and teacher reported variables disruptive behavior, prosocial behavior, emotional regulation problems, and academic competence). This method was also used for teacher reported burnout between profiles. Differences between these mean scores were then tested for statistical significance. In all analyses, standard errors were corrected to reflect that fact that children were clustered within classrooms (Reboussin et al. 2006).

## **CHAPTER IV: RESULTS**

The aim of this study was to investigate profiles of teacher classroom management strategies and their effects on student behavioral and social competence outcomes. Further, this study sought to determine if teacher self-efficacy in classroom management, prior training in behavior management, highest degree obtained and years teaching were significantly associated with the profiles of classroom management strategies. Finally, as classroom management is often a source of stress for teachers, the relationship between teacher profiles of classroom management strategies and teacher reported burnout was examined.

This study utilized direct observation of teacher classroom management practices and student behaviors and teacher self-report and ratings of student behaviors and social competence. Profiles of teacher classroom management strategies were created from observed teacher classroom management strategies using latent profile analysis. Teacher report of self-efficacy in classroom management and teacher demographic variables were collected to ascertain if those covariates were associated with teachers' use of classroom management strategies. Finally, analyses were conducted to determine if teacher classroom management profiles were associated with student behavioral and social competence outcomes and teacher reported burnout. This section will provide a detailed description of the results of the study variables.

### **Descriptive Statistics**

The means and standard deviations for indicators, covariates, and dependent variables, including student observations, teacher reported student rating scales and teacher reported burnout, are described in this section.

Table 2 displays the means and standard deviations for the indicators that comprised the classroom management strategies used in the profiles. The indicators used were the rate of general praise, rate of specific praise, rate of total reprimands, mean score on Section B- Behavioral Expectations of the CEC and the mean score on Section C- Instructional Management of the CEC. The mean rate of general praise for all teachers participating in the study was .47 praise statements per minute. The mean rate of specific praise for all teachers in the study was .15 behavior specific praise statements per minute. The mean rate of total reprimands for all teachers in the study was .76 reprimands per minute. The mean score on Section B of the CEC was 2.19. The mean score on Section C of the CEC was 2.32.

Table 2

*Means and Standard Deviations (SD) of Indicators*

Indicator-Teacher Observed Behaviors	Rate of General Praise	Rate of Specific Praise	Rate of Total Reprimands	Mean of CEC Behavioral Expectations	Mean of CEC Instructional Management
Mean (SD)	.47 (.29)	.15 (.15)	.76 (.41)	2.19 (.63)	2.32 (.49)

Table 3 displays descriptive statistics for the covariates used in this study. For 31 teachers, or 46 percent of the sample, the highest degree they completed was a Bachelor's degree. Another 31 teachers, 46 percent, had completed their Master's degree. Six teachers, or 8 percent, had completed certification beyond their master's degree. Forty three teachers, 63 percent of the sample, had received at least eight hours of professional development in behavior management in the previous three years. Twenty four teachers, or 35 percent, had not received at least eight hours of professional development in the previous year. One teacher did not answer that item. The number of years working as a

teacher ranged from one to 29 years, with the mean 11.75 years. Finally, teachers' self-report of their self-efficacy in Classroom Management ranged from 14 to 4 with a mean of 7.4.

Table 3

*Descriptive Statistics for Covariates*

Covariate	Statistics	
Highest Degree Completed	Bachelor's	31 (45.6 %)
	Master's	31 (45.6 %)
	Postmaster's certification	6 (8.8 %)
Received eight hours of Professional Development in Behavior Management	Yes	43 (61.8 %)
	No	24 (36.8 %)
	Missing	1
Number of Years working as a teacher	Mean	11.75
	Maximum	29
	Minimum	1
Self-Efficacy in Classroom Management	Mean	7.4
	Maximum	14
	Minimum	4

Table 4 displays the means and standard deviations for observed student dependent variables across all classrooms in the study. The mean percent of time on task was 93 percent of the observation period. The percent of time off-task was 5.7 percent of the observation period. The frequency of aggression was 1.19 acts of aggression per observation. The frequency of disruptions was 33.76 instances of disruption per observation.

Table 4

*Mean and Standard Deviation (SD) for Observed Student Dependent Variables*

Variable	Percent of Time On Task	Percent of Time Off task	Rate of Aggression	Rate of Disruptions
Mean (SD)	93.0 (7.1)	5.7 (5.2)	.023 (.04)	.80 (.42)

Table 5 displays the mean and standard deviation of teacher reported student variables on the Disruptive Behavior and Emotional Regulation subscales of the TOCA-C and the Prosocial Behavior and Academic Competence subscales on the TSC rating scales. The mean rating across teachers for Disruptive Behavior was 1.7. The mean rating for Emotional Regulation was 2.2. The mean rating for Prosocial Behavior was 3.3 and the mean rating for Academic Competence was 3.3.

Table 5

*Mean and Standard Deviation (SD) for Teacher-reported Dependent Variables*

Rating Scales	Subscales	Mean (SD)
TOCA-C	Disruptive Behavior	1.7 (.3)
	Emotional Regulation	2.2 (.5)
TSC	Prosocial Behavior	3.3 (.6)
	Academic Competence	3.3 (.6)

Table 6 displays the means and standard deviations for teacher-reported levels of burnout. The mean score for teachers' self-rating of emotional exhaustion was 19.4. Teachers' mean rating for depersonalization was 4.8. The mean score for teachers' self-rating of personal accomplishment was 40.9. Finally, the total burnout, averaged across the three subscales, was 21.7.

Table 6

*Means and Standard Deviations (SD) for Teacher-reported Burnout*

Teacher Variable	Emotional Exhaustion	Depersonalization	Personal Accomplishment	Average Total Burnout
Mean (SD)	19.4 (10.8)	4.8 (4.5)	40.9 (4.7)	21.7 (4.6)

## **Analysis**

All of the hypothesized indicators were included in the initial analyses, including rate of OTRs, pre-corrections, the total score of the CEC and general and specific praise, and harsh and explicit reprimands, as separate indicators. However, a model solution was not found due to nonconvergence. The pre-corrections indicator was removed from further analyses because of the low variance and range of observations.

Other combinations of the indicators were analyzed to determine if a model solution could be found. One combination involved removing the CEC from the analysis and conducting the analyses only using indicators which were observed using the MOOSES software and ST-CIO real-time coding system (Reinke & Newcomer, 2010). After multiple iterations of the analyses, it was observed that when the either rate of OTR or harsh reprimands were included in the analyses, the model did not converge. This was likely due to low rates of the harsh reprimand behavior and lack of variability in the rate of OTRs within the classrooms. Thus, it was concluded that harsh and explicit reprimands would be combined into a ‘rate of total reprimands’ indicator and the indicator ‘rate of OTR’ would not be included in further analyses.

Because sections of the CEC added classroom management strategies that were not captured with the ST-CIO, the scales of the CEC were examined individually. There were some scales that did not have enough variance or range to be included in the analyses. Those scales included Interacting Positively and Responding to Appropriate Behavior, which only had two items each, and Persistence Coaching, which only had three items. Some scales, including Responding to Inappropriate Behavior, while the variance and range of scores was acceptable, were not included in the analysis because

the variable Total Reprimands captured the a part of the classroom management strategies included in this section.

Those scales that had a reasonable amount of variance and contributed classroom management strategies to the potential profiles that were not included in ST-CIO observation were included in additional analyses. Those scales were Classroom Structure, Behavioral Expectations and Instructional Management. Using the three scales of the CEC, plus the observed variables, rate of general and specific praise and rate of total reprimands, analyses were conducted to determine which combination of classroom management strategies would yield profiles which satisfied statistical and theoretical foundations. Using the mean scores for Classroom Structure, Behavioral Expectations and Instructional Management, , and rate of general praise, specific praise and total reprimands yielded a three profile solution that satisfied statistical criteria, including lowest score on the BIC, a VLMR LRT of  $p > .05$  and an entropy statistic of 0.92. However, further investigation of the estimated means demonstrated that there was little differentiation among profiles on Classroom Structure of the CEC. Thus, to ensure parsimony, this scale was not included in further analyses.

Analyses continued using mean rating of Behavioral Expectations and Instructional Management from the CEC, and rate of specific praise, general praise and total reprimands. Using these variables a model solution was found that satisfied the theoretical underpinning which guides the current study.

Final LPA analysis yielded a three profile model in which the BIC statistic was smaller for the three profile solution than for the two or four profile solution. Entropy statistics for the 3 profile solution were also acceptable. The VLMR LRT statistic was

significant. While the AIC and aBIC statistics for the four profile solution were smaller than for the three profile solution, the BIC, Entropy and VLMT LRT statistics support the three profile solution as the best. Table 7 provides the model fit indices for 2 to 4 profile solutions. Further, upon examining the composition of the profiles the estimated means for each variable and number of members in each group was most consistent with theory.

Covariates were then added to the three profile solution. Teacher self-efficacy was inserted into the model as a covariate under the assumption that teachers' self-efficacy in classroom management would be associated with use of effective practices. This analysis was conducted using model constraints. As Muthén and Muthén (2007) suggest, by fixing the parameters, researchers are aided in their determination of the influence certain variables have on the model. Model values were constrained to determine the effect teachers' self-efficacy in classroom management had on the chosen model. In separate analyses, teachers' highest degree obtained, years of teaching and prior professional development in classroom management were also inserted in the model as covariates. It was hypothesized that teachers education, more years in teaching and additional training in classroom management would vary across profiles.

Next, the results from the four research questions will be presented.

**Question 1: What number and type of teacher classroom management profiles will emerge?**

LPA analyses for the teacher sample led to three profile solution. The BIC statistic indicates improvement for the three profile solution, but the statistic increases at the four profile solution. The AIC and aBIC statistics indicate improvements for the

three profile solution compared to the two profile solution. Also, while the VLMR LRT statistic is greater for the three profile solution compared to the two profile solution, the value is still acceptable. Further, the Entropy statistic for the three class solution, while smaller than for the two and four profile solutions, is still fairly close to one and greater than 0.80. This particular three profile solution was determined to be the best solution for the sample due to its stability, agreement with theoretical basis and statistical support.

The three profiles are:

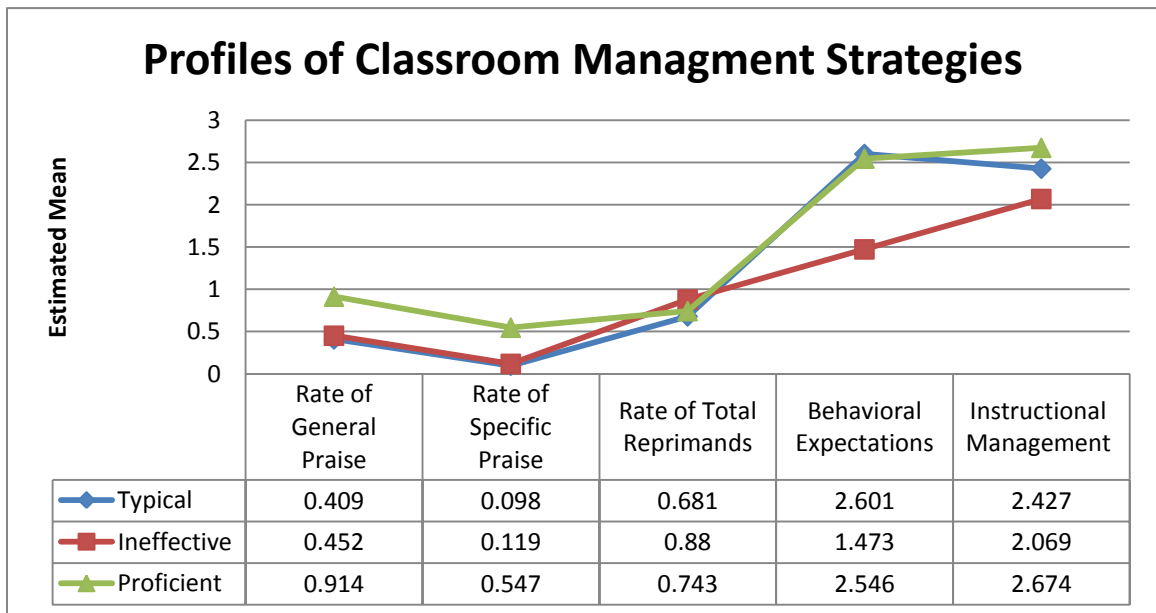
1. Typical- Teachers who use low rates of general and specific praise, moderate rates of reprimands, and high ratings in behavioral expectations and instructional management. 56%
2. Ineffective- Teachers who use low rates of general and specific praise, moderate rates of reprimands, and low ratings in behavioral expectations and instructional management. 35%
3. Proficient- Teachers who use moderate rates of general and specific praise, moderate rates of reprimands, and high ratings in behavioral expectations and instructional management. 9%

Table 7

*Model Fit Indices for 2 to 4 profile solutions*

Teacher Classroom Management Profiles					
Latent Profile	AIC	BIC	aBIC	VLMR LRT	Entropy
2	233.91	269.42	219.04	0.00	0.98
<b>3</b>	<b>213.26</b>	<b>262.19</b>	<b>192.91</b>	<b>0.04</b>	<b>0.91</b>
4	206.82	268.97	180.79	0.50	0.92

Note. AIC = Akaike information criterion; BIC = Bayesian information criterion; aBIC = adjusted Bayesian information criterion. Smaller values indicate better fit of the model. Entropy values close to 1.0 indicate higher classification precision.



*Figure 1. Means of Rate of General Praise, Rate of Specific Praise, Rate of Total Reprimands, Behavioral Expectations, and Instructional Management of Profiles.*

Figure 1 displays the estimated means for each of the indicators for each class. For the Typical profile, the rate of general praise was .409, the rate of specific praise was .098, rate of total Reprimands was .681, the mean of the CEC section for Behavioral Expectations was 2.601 and the mean of the CEC section for Instructional Management was 2.427. For the Ineffective profile, the rate of general praise was .452, the rate of specific praise was .119, rate of total Reprimands was .88, the mean of the CEC section for Behavioral Expectations was 1.473 and the mean of the CEC section for Instructional Management was 2.069. For the Proficient profile, the rate of general praise was .914, the rate of specific praise was .547, rate of total Reprimands was .743, the mean of the CEC section for Behavioral Expectations was 2.546 and the mean of the CEC section for Instructional Management was 2.674. While all three teacher profiles have similar rates of total reprimands, they differed on rates of praise and the sections of the CEC. The Typical and Proficient profiles differed from the Ineffective profile on the mean of the CEC for Behavioral Expectations and Instructional Management. Thus, in the classrooms of teachers in with typical and proficient profiles, the behavioral expectations are clear and easy to determine and the instructional management of those teachers incorporates more effective practices than that of teachers with ineffective profiles. The proficient profile differed from the typical and ineffective profiles and 2 on Rate of General and Specific Praise. Teachers with proficient profiles demonstrated nearly double the rate of both general and specific praise when compared to teacher with typical and ineffective profiles.

**Question 2: Are teacher level of self-efficacy with classroom management, prior training in behavior management, education level and years teaching significantly associated with teacher profiles?**

Using Latent Class Regression, teacher profiles were regressed on teachers' reported level of self-efficacy in classroom management. The resulting odds ratios were not significant. Odds ratios and confidence intervals for self-efficacy in classroom management and other teacher variables (highest degree obtained, years teaching, and prior training in classroom management) are presented in table 8 (Proficient vs. Ineffective Profiles) and table 9 (Typical vs. Ineffective Profiles).

Other teacher variables were inserted into the model to determine if they were associated with the profiles. The odds ratios for teachers' highest degree obtained were not significant. Also, the number of years teaching was not a significant covariate. Finally, the odds ratios of whether teachers had received at least 8 hours of professional development in the past three years in classroom management were not significant.

Table 8

*Odds ratios and Confidence Interval for Teacher Covariates for Proficient vs. Ineffective*

*Profiles*

Proficient vs. Ineffective Profile			
	Odds Ratio	CI Lower Limit	CI Upper Limit
Efficacy in Classroom Management	1.346	0.423	4.282
Highest Degree Obtained	1.703	0.42	6.907
Years Teaching	0.963	0.811	1.144
Prior Training in Classroom Management	1.092	0.08	14.906

Table 9

*Odds ratios and Confidence Interval for Teacher Covariates for Typical vs. Ineffective*

*Profiles*

Typical vs. Ineffective Profile			
	Odds Ratio	CI Lower Limit	CI Upper Limit
Efficacy in Classroom Management	1.614	0.727	3.585
Highest Degree Obtained	1.015	0.262	3.938
Years Teaching	1.073	0.941	1.223
Prior Training in Classroom Management	1.035	0.208	5.144

**Question 3: Are there significant differences between the teacher classroom management profiles with regard to levels of student problem behavior and student social competence?**

Table 10 displays the means, standard error and equality tests across profiles of teacher classroom management strategies for the various student level outcomes. The student level variables are split between observed variable and those variables which are teacher ratings. Finally, if the overall model was significant the significant class comparisons are included in the table.

The first variable investigated is the rate of disruption for the classroom. This variable was not significantly different between teacher profiles. The next variable is the rate of aggression in the classroom. This variable was significantly different between the profiles of teachers. The Proficient profile had the low mean score for rate of aggression (M= 0.00) and was significantly different from the Typical (M = 0.03;  $\chi^2 = 13.67$ , p = .000) and the Ineffective (M = 0.02;  $\chi^2 = 13.07$ , p = .000) profiles. The next variable, percent of time on-task, was significantly different between profiles of classroom teachers. The Proficient profile had the high mean score for Percent of Time On-task (M= 97.05) and was significantly different from the Typical (M = 92.90;  $\chi^2 = 6.93$ , p = .008) and the Ineffective (M = 92.10;  $\chi^2 = 7.14$ , p = .008) profiles. Percent of time Off-task was also significantly different between teacher profiles. The Proficient profile had the lowest mean score for Percent of Time Off-task (M= 2.83) and was significantly different from the Typical (M = 5.330;  $\chi^2 = 3.55$ , p = .06) and the Ineffective (M = 6.90;  $\chi^2 = 6.15$ , p = .01) profiles. When compared to classrooms with an Ineffective teacher profile, classrooms with a Proficient teacher profile had a significantly smaller percent of

time off-task. The comparison between Typical and Proficient profiles was approaching significance ( $p=.06$ ), with classrooms with Proficient profiles teachers having a smaller amount of time off task.

Table 10

*Means, Standard Error and Equality Tests across Profiles of Teacher Classroom*

*Management Strategies- Student Variables (n=68)*

	Profile 1: Typical (n=38)	Profile 2: Ineffective (n=24)	Profile 3: Proficient (n=6)	Overall test of significance	Significant class comparisons
<b>Observation</b>					
Rate of Disruption	0.72 (0.07)	0.92 (0.10)	0.79 (0.12)	2.90	
Rate of Aggression	0.03 (0.08)	0.02 (0.06)	0.00 (0.00)	24.44***	Profile 1 vs. 3*** Profile 2 vs. 3***
Percent of Time On-task	92.90 (1.18)	92.10 (1.54)	97.05 (1.03)	9.79**	Profile 1 vs. 3** Profile 2 vs. 3**
Percent of Time Off- task	5.33 (.80)	6.90 (1.26)	2.83 (1.06)	6.59*	Profile 1 vs. 3 <sup>+</sup> Profile 2 vs. 3*
<b>Teacher Report</b>					
TOCA Emotional Regulation	2.17 (0.09)	2.17 (0.08)	2.16 (0.13)	0.01	
TSC Academic Competence	3.30 (0.09)	3.29 (0.11)	3.13 (0.23)	0.46	
TOCA Disruptive Behavior	1.73 (0.06)	1.76 (0.07)	1.70 (0.10)	0.34	
TSC Prosocial Behavior	3.41 (0.11)	3.24 (0.11)	3.15 (0.19)	1.97	

\*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ , +  $p < .10$

The various teacher ratings of students for Emotional Regulation, Academic Competence, Disruptive Behavior and Prosocial Behavior were not significantly different between the three different teacher profiles. For Emotional Regulation, Typical and Ineffective profiles had an average rating of 2.17, while the Proficient profile had an average rating of 2.16. On the subscale Academic Competence, the Typical profile had an average rating of 3.30, the Ineffective profile had an average rating of 3.29 and the Proficient profile had an average rating of 3.13. For Disruptive Behavior, the Typical profile had an average rating of 1.73, the Ineffective profile had an average rating of 1.76 and the Proficient profile had an average rating of 1.70. Finally, the average rating for the Typical profile on the subscale Prosocial Behavior was 3.41, for the Ineffective profile it was 3.24 and for the Proficient profile the average rating was 3.15.

**Question 4: Are there significant differences between the teacher classroom management profiles regarding self-reported levels of burnout?**

Table 11 displays the means, standard error and equality tests across profiles of teacher classroom management strategies for teacher reported burnout. The subscales of burnout and total score for burnout are included in the table. Finally, if the overall model was significant the significant class comparisons are included in the table.

Table 11

*Means, Standard Error and Equality Tests across Profiles of Teacher Classroom*

*Management Strategies- Burnout (n=68)*

	Profile 1: Typical (n=38)	Profile 2: Ineffective (n=24)	Profile 3: Proficient (n=6)	Overall test of significance	Significant class comparisons
Emotional Exhaustion	18.6	19.5	24.0	3.85	
Depersonalization	4.9	4.9	3.3	3.21	
Personal Accomplishment	41.2	40.5	41.1	.348	
Total Burnout	21.6	21.6	22.9	1.56	

The first subscale is Emotional Exhaustion, which is defined as feeling exhausted and emotionally overwhelmed from one’s work (Maslach et al., 1996). For this subscale, teachers with a Typical profile had a mean of 18.6, teachers with an Ineffective profile had a mean of 19.5 and teachers with a Proficient profile had a mean of 24.0. None of the profiles are significantly different from each other and according to Maslach and colleagues (1996) the teachers in all three categories are reporting an average amount of emotional exhaustion when compared to the teachers in their sample. It is interesting to note that, while not significant, teachers with a Proficient profile report a higher level of emotional exhaustion than teachers with the other two profiles.

The next subscale is Depersonalization, which is defined as a lack of feeling or distant response to one’s professional practice or clients (Maslach et al., 1996). For this subscale, teachers with a Typical profile had a mean of 4.9, teachers with an Ineffective profile also had a mean of 4.9 and teachers with a Proficient profile had a mean of 3.3. None of the profiles are significantly different from each other and according to Maslach

and colleagues (1996) the teachers in all three categories are reporting a low amount of depersonalization when compared to the teachers in their sample. For this subscale, while not significant, teachers with a Proficient profile had a lower reported feeling of depersonalization.

The final subscale is Personal Accomplishment, which is defined as one's feeling of achievement and proficiency toward work (Maslach, et al., 1996) and higher scores are desired. For this subscale, teachers with a Typical profile had a mean of 41.2, teachers with an Ineffective profile had a mean of 40.5 and teachers with a Proficient profile had a mean of 41.1. None of the profiles are significantly different from each other and according to Maslach and colleagues (1996) the teachers in all three categories are reporting a desired amount of personal accomplishment when compared to the teachers in their sample.

Finally, the Total Burnout, which is an average score for the teacher across the three subscales, did not result in significant score differences across the three teacher profiles. Teachers with a Typical profile had a mean of 21.6, teachers with an Ineffective profile also had a mean of 21.6 and teachers with a Proficient profile had a mean of 22.9.

## CHAPTER V: DISCUSSION

The purpose of this study was to determine profiles of teacher use of classroom management strategies. Rather than focusing on teachers' use of a single strategy, this study sought to determine the combinations of classroom management strategies used by teachers in this sample. Further, the profiles of classroom management strategies were developed using variables which were observed rather than self-reported. Person-centered statistical approaches, such as latent profile analysis, allow researchers to take a more nuanced approach to research questions. Rather than focusing on more variable-centered approaches, LPA affords researchers the opportunity to see how individuals are grouped together, rather than variables.

Investigating teachers' use of classroom management strategies is important for many reasons. The relationship between poor classroom management and student behavior problems has been established (Kellam et al., 2008; Petras et al., 2008; Sutherland et al., 2008). When teachers lack classroom management strategies, their students often display inappropriate behaviors. Further, many students who have behavioral problems also display academic deficits (Reinke, Herman, Petras & Ialongo, 2008). In addition, many teachers who enter the field leave within five years (NEA, 2003) and cite burnout or stress related to classroom management as a top reason for leaving the field (Friedman, 1995; Haberman, 2004; Markow et al., 2006).

The current study was guided by four research questions. The first addressed the profiles of classroom management strategies that would emerge from the observed classroom management strategies. The second question investigated whether teacher self-efficacy of classroom management and background variables such as years of

experience and prior training were associated with the classroom management profiles. Third, the study explored whether teacher classroom management profiles influenced student behavior, both observed and teacher reported. Finally, the fourth question examined if teacher profiles predicted teacher reported levels of burnout.

The following discussion of the outcomes is organized according to research questions. Implications for practice, limitations of the study, future directions for research and conclusions are also discussed.

### **Research Question 1**

*What number and type of teacher classroom management profiles will emerge?*

A three profile solution emerged as the best solution. The first profile to emerge would be characterized as teachers using a ‘proficient’ combination of classroom management strategies. Teachers with this profile used higher amounts of praise, moderate amounts of reprimands and had high classroom ecology. In these classrooms, approximately equal amounts of praise and reprimands are used, behavioral expectations are known and an appropriate amount of instructional management is used. The second profile included teachers who utilize a low rate of praise, moderate rates of reprimands and high classroom ecology. This profile of teacher could be characterized as a ‘typical’ combination of strategies. Teachers with this profile use more reprimands than praise, but the behavioral expectations in their classroom are known and they utilized an appropriate amount of instructional management. The third profile of teachers also utilized a low rate of praise, moderate amount of reprimands, but had low classroom ecology. Teachers with this profile would be characterized as using an ‘ineffective’

combination of strategies. Teachers with this profile also used more reprimands than praise; however the behavioral expectations of their classroom are not known and their instructional management is poor. These profiles display some similarities to those found by LoCasale-Crouch and colleagues (2007). Although LoCasale-Crouch and colleagues found a five profile solution, the differentiation between their profiles focused on the positive climate and instructional quality; similar to rates of praise and instructional management in the current study.

The three profiles were similar to what was predicted; however the mean value for some of the indicators was not what was expected. It was expected that teachers with a 'proficient' profile would use more praise than reprimands; however in that profile, there are approximately equal rates of praise and reprimands. When evaluating the rate of praise to reprimands none of the profiles would meet the recommended 4:1 ratio of praise to reprimands (Trussell, 2008). It is likely that many teachers find this ratio difficult to maintain. To maintain this ratio, teachers must be cognizant of each reprimand they make and attempt to provide 3-4 praise statements immediately following a reprimand. With so much happening in a classroom, it is possible that teachers find reprimands the easiest strategy for managing their classroom. As Reupert and Woodcock (2010) found, teachers are more likely to utilize reactive strategies, rather than preventive ones to manage difficult classroom behavior.

Typical and Proficient profiles have similar values on classroom ecology, while the Ineffective profile displays lower levels of classroom ecology. The fact that the Ineffective profile displayed lower rates of Behavioral Expectations is surprising given the fact that all of the participating schools are PBIS schools. One of the central tenants

of PBIS is having simple, clear classroom expectations that are visible to all (Horner et al., 2009; Sugai & Horner, 2002). The fact that all schools participate in the PBIS program would lead one to assume that the behavioral expectations of the school and classroom are known and that a visitor would be able to quickly find those expectations. However, recent research (see Reinke, Herman, & Stormont, in press) has found that proactive classroom management strategies (which are consistent with PBIS principles) are not utilized at high rates. Thus, although a school may implement PBIS at a high level school-wide (for example, in the hallways and cafeteria) that optimal implementation may not permeate into the classroom. Therefore, it would seem that those teachers would benefit from additional training in the principles of PBIS, especially the importance of having clear, simple behavioral expectations and posting and reviewing those expectations. School psychologists are trained in the principles of PBIS (including prevention and early intervention for problem behavior) and effective delivery of district- and school- wide systems, such as PBIS. Therefore, school psychologists would be the ideal personnel to assist school districts, administrators and teachers to effectively incorporate the principles of PBIS into the school and classrooms. By providing knowledge of the guiding theory and principles of PBIS, training in the practices and support in implementation, school psychologists are essential personnel in the successful incorporation of PBIS principles into schools to prevent and intervene early when disruptive behaviors arise.

The lower levels of Instructional Management are less surprising if one considers that some of the practices within instructional management could differ depending on training or personal teaching philosophy. For instance, teachers may not be trained in or

utilize direct instruction techniques, which encourage a high rate of opportunities to respond and effective error correction (Carnine et al., 2006). The lower levels of Behavioral Expectations and Instructional Management do provide the opportunity for professional development and/or on-going consultation to incorporate some of the classroom management strategies within both areas of practice.

The Proficient profile differed from the Typical and Ineffective profiles on rates of both specific and general praise. The Proficient profile displayed approximately twice the rate of general and specific praise as either the Typical or Ineffective profile. It is interesting to note that despite the teachers with a Proficient profile providing twice the rate of praise as the other two, all three of the profiles exhibited similar rates of reprimands. The Typical and Ineffective profiles have a positive to negative ratio of at least 1:2 and teachers with the Proficient profile have a 1:1 ratio; although the recommended ratio of positive to negative is 4:1 (Stitcher et al., 2009; Trussell, 2008). A higher praise to reprimand ratio has a positive impact on the students, including reducing disruptions (Reinke et al., 2008) and increasing time on-task (Sutherland et al., 2000).

It is unfortunate and surprising that only six teachers in the sample (nine percent) fit in the Proficient profile and used a higher rate of praise. As research has demonstrated in many instances (Brophy, 1981; Leflot et al., 2010, Reinke et al., 2008; Sutherland et al., 2000) increasing praise in the classroom has benefits for students and teachers. By decreasing problem behavior exhibited by students, teachers can improve the environment of their classroom and leave more time for instruction and student learning. However, LoCasale-Crouch and colleagues (2007) also found that the highest quality profile also represented the smallest proportion of classrooms in their study. Previous

research has demonstrated the positive impact praise has had on students, including fostering a more nurturing classroom and promoting positive behaviors (Colvin, 2010; Lane et al., 2011), reducing teacher reprimands and student disruptive behavior (Reinke et al., 2008), and increasing student on task behavior (Sutherland et al., 2000).

Further, prior research (e.g. Moore Partin et al., 2010; Reinke et al., 2008; Sutherland, Wehby & Copeland, 2000) has demonstrated that with training or consultation teachers can increase their rates of praise and in response to the increase in praise the behavior of their students also improves. Thus, the provision of support and consultation services to teachers in order to improve classroom management practices is critical. Simonsen and colleagues (2010) and Reinke and colleagues (2008) have demonstrated that consultation, training and feedback can be effective to help teachers utilize more effective classroom management practices (increasing rates of praise and OTRs), thereby decreasing student disruptions and increasing time on task. Thus, with training and feedback, teacher classroom management practices can be changed and improved. Providing teachers with training and consultation to increase their use of praise, and decrease reprimands, could be a relatively simple way to influence teacher classroom management practices and have a positive impact on student behaviors.

### **Research Question 2**

*Are teacher level of self-efficacy with classroom management, prior training in behavior management, education level and years teaching significantly associated with teacher profiles?*

Teachers' levels of self-efficacy with classroom management did not significantly predict teachers' assignment to profiles. This finding was unexpected because it was predicted that teachers who had higher self-efficacy in classroom management would be more likely to be in the Proficient profile. As indicated by Lane and colleagues (2011), teachers' lack of self-efficacy in classroom management may lead to the use of more reactive or harsh management strategies; hence those teachers with a higher level of self-efficacy would be more likely to use more effective strategies. One potential reason for the lack of significant findings could be the low number of teachers in the Proficient profile. Both the Proficient and Typical profiles were slightly more likely to have higher rates of efficacy than the ineffective, but this was not statistically significant. A larger sample may have supported the hypothesis. Another possibility is that teachers in this sample using less effective practices feel efficacious in the practices which they use or those using effective practices do not feel efficacious when using those practices. Given that the lack of a significant relationship between self-efficacy and profiles and the lack of a significant difference between teacher ratings on the TOCA-C and TSC, it seems that those teachers who use more effective practices do not feel as though the students in their classrooms exhibit significantly more prosocial behavior (or less disruptive) than those students in the classrooms in which the teachers utilize effective practices at a lower rate.

Additional variables, including teachers' highest degree obtained, years in teaching and previous professional development in behavior management, were also inserted into the model solution to determine if they influenced teacher profiles. None of these variables significantly predicted teachers' assignment to profiles. The lack of significant findings for these additional variables was surprising. It was hypothesized

that all of these variables would influence teacher assignment to profiles, considering prior research that has demonstrated a relationship between training, years of experience, efficacy and classroom management practices (e.g. Egyed & Short, 2006; Fives et al., 2007; Pas et al., 2012). It is possible that teachers did not gain additional training in classroom management in their masters' and post-masters' certification classes. Further, as teachers continue in the profession, it may be that they become comfortable with using methods to management their classroom which are less effective and the teachers are resistant to change those practices. Finally, the finding that previous professional development in behavior management did not influence teacher assignment profiles may demonstrates the fact that single professional development sessions, or instructional sessions without practice, may not be enough to transfer those skills into the classroom and have a significant impact on students (see Yoon, Duncan, Lee, Scarloss, & Shapley, 2007). In a review of professional development programs, Knight and Wiseman (2005) found the training models that followed training sessions with coaching or consultation tended to have more positive outcomes (i.e. transfer of skills/attitudes into the classroom). Conversely, additional training, perception of knowledge and actual knowledge may not be related (Stormont & Stebbins, 2005); those teachers may not know which classroom management strategies have been demonstrated through research to be effective. Additional consultation, coaching and follow-up sessions may increase teachers' use of effective classroom management strategies compared to attendance of professional development sessions alone. In fact, researchers have demonstrated that follow-up sessions, coaching or consultation has increased teachers' use and acceptance of effective classroom management practices (Reinke, et al., 2008; Shernoff &

Kratochwill, 2007), evidence-based literacy programs (Carlisle, & Berebitsky, 2011), and effective mathematics instructional practices (Kretlow, Wood, & Cooke, 2011; Rudd, Lambert, Satterwhite, & Smith, 2009).

### **Research Question 3**

*Are there significant differences between the teacher classroom management profiles with regard to levels of student problem behavior and student social competence?*

When the three classroom management profiles were compared for student level problem behavior and social competence, there were significant differences found for student rates of aggression, percent of time on task and percent of time off task. The Proficient profile had a significantly lower rate of aggression than either the Typical or Ineffective profiles. Further, the Proficient profile also had a significantly higher percent of time on task than the other two profiles. Finally, the Proficient profile had a significantly lower percent of time off task than the Ineffective profile and was approaching significance when compared to the Typical profile. When comparing the Proficient profile to the Typical profile, the p-value of the comparison for percent of time off task was .06, which, while not significant at the  $p < .05$  level, is approaching significance and is mentioned to accentuate the differences in student behaviors between classrooms with different profiles.

The rate of disruptions was not significantly different between the different profiles. Also, there were no significant differences among the teacher reported variables including emotional regulation, academic competence, disruptive behavior and prosocial behavior. The lack of significant findings for rate of disruption was unexpected.

However, during observations, disruptions were coded when the teacher gave a reprimand or stopped instruction. Thus, disruptions and reprimands were highly correlated. Since all three classroom management profiles have similar rates of reprimands, it is not surprising that the rate of disruptions did not differ across profiles.

Given that research demonstrates that effective classroom management strategies promote students' prosocial behavior and decrease their disruptive behavior (Sutherland, et al., 2003; Webster-Stratton, et al., 2004) the lack of significant findings between teacher profiles is surprising. One would expect that teachers who use more effective classroom management practices, especially specific and general praise, would report higher levels of prosocial behavior and lower levels of disruptive behavior. Research has demonstrated the positive impact a higher praise to reprimand ratio has on student behaviors, including decreasing disruptions (Reinke et al., 2008), increasing on-task behavior (Sutherland et al., 2000), and slowing the development of hyperactive and oppositional behavior (Leflot et al., 2010). The low numbers of teachers in the profile using high rates of praise, and even those using high rates of praise only used a 1:1 praise to reprimand ratio, could have affected the results of the equality tests and lack of significant differences between the other two profiles. Considering the evidence of the impact on student behavior of a high praise to reprimand ratio, is it possible that because the teachers in the study did not reach the recommended ratio of praise to reprimands, the positive student outcomes did not come to fruition. It may be possible that positive student outcomes due to a high praise to reprimand ration does not occur until a particular threshold is reached of positive to negative statements. It is also likely that with such a small number of teachers (six) in the Proficient profile (1:1 praise to reprimand ratio), the

ability to detect a significant difference between the profiles of teachers was greatly limited. Perhaps if the number of teachers with each profile were more equal, perhaps 18-26 teachers in each profile, there would be more significant differences among the student variables.

#### **Research Question 4**

*Are there significant differences between the teacher classroom management profiles regarding self-reported levels of burnout?*

There were no significant differences between teacher classroom management profiles for the three subscales of burnout, emotional exhaustion, depersonalization or personal accomplishment, or the total burnout. The lack of significant differences between profiles is unexpected given that students in classrooms with Proficient teachers had lower rates of aggression and a higher percent of time on task. One would think that in classrooms with higher rates of student aggression and less time on task (Typical and Ineffective profiles), teachers would experience more stress, as student misbehavior and classroom management are often cited as sources of stress and burnout for teachers (Haberman, 2004; Markow et al., 2006). Therefore, it was assumed that teachers with students who exhibit more aggression and less time on task would lower reported burnout, including emotional exhaustion and depersonalization.

Further, teachers in all profiles did not report levels of burnout that would be considered high. Overall, there was little variability within the sample on teacher reported burnout. Since none of the profiles of teachers indicated increased levels of emotional exhaustion or depersonalization or decreased levels of personal

accomplishment, the lack of significant differences is expected. Even if statistically significant differences were found between profiles, the differences would not be clinically significant. Because none of the ratings were in the elevated range (greater than 27 for Emotional Exhaustion, greater than 14 for Depersonalization, and less than 30 for Personal Accomplishment), teacher levels of burnout are not a concern for this sample at the time of data collection.

One possible reason for the lack of differences in reported levels of burnout is the timing of the teachers' report and collection of student data. The data was collected during the first two months of school, when teachers are still getting to know their students, develop routines and in the beginning of academic instruction. At this point in time teachers may feel low levels of stress, and therefore low levels of burnout, for a couple reasons. At the beginning of the school year academic content and instruction is reviewing previous years' material. As the year goes on instruction transitions to introducing new material, which some students may find difficult. The introduction of new, difficult material may cause frustration for students, who have trouble understanding and utilizing the new material, and teachers, who want their students to understand and utilize the material. Also, standardized academic assessment of students, which causes teachers stress, has not occurred. Teachers feel pressure to ensure that their students are able to apply new material on the assessments and do well on those assessments. Future research might investigate teachers' level of burnout at the end of the year, after standardized academic assessments and students' disruptive behaviors may have reached the point of intolerance for teachers.

## **Implications for Practice**

The current study provides insights into teachers' use of various classroom management strategies and their impact on student behaviors and teachers' burnout. The final profiles of teacher classroom management included five classroom management strategies. Of those strategies, all teachers used similar rates of reprimands. Those strategies which differed were behavioral expectations, instructional management, general praise and specific praise. This finding demonstrates the variability of classroom management strategies used and the rates in which those strategies are used. Hence, there is not a single method to work with teachers in order to improve their classroom climate and improve student behaviors. Gathering data to determine the strategies used and the rate of those strategies is essential to ensure that the suggested strategies will have an effect in the classroom.

Of the teachers in the sample, only six teachers were classified into profiles which used a higher rate of praise. Praise has been demonstrated as a simple way to improve classroom climate and student behavior (Reinke, et al., 2008), thus more attention to increasing praise in the classroom should be given. Teachers who wish to improve the climate of their classroom and decrease student misbehavior can focus on purposefully incorporating more praise statements into their daily routine. Furthermore, in this study, teachers in the profile which utilized more praise had lower rates of aggression and off task behaviors than those classrooms in which lower rates of praise were used. Thus, this underscores the importance of teachers utilizing more praise in their classrooms to impact and improve their students' behavior. Further, the current study found that prior education, years in the field or professional development in behavior management did not

impact teachers' assignment to profiles. This finding underscores the importance for ongoing consultation, especially following professional development, to help teachers incorporate more effective classroom management practices.

When consulting with teachers with high levels of aggression and off task behaviors, focusing on increasing use of praise for appropriate behaviors may optimize student outcomes. School psychologists can help teachers to implement evidence-based techniques to reduce student misbehavior (Reinke et al., 2011). Thus, continued consultation with teachers to incorporate more praise statements and other effective classroom management techniques is a necessary responsibility for school psychologists.

### **Limitations**

Although this research study was conducted in a manner to contribute to the scientific community, it is not without its limitations. First, this study is a cross sectional analysis of student and teacher variables and thus a causal relationship cannot be determined. The data in this study were collected during a particular time point in the school year and the results can only determine associations between the variables, and not if one variable (i.e. teacher profiles) causes another variable (i.e. student rates of aggression). Follow up data collection at the end of the school year might add to the findings to determine if more significant differences arose between classrooms with different classroom management profiles.

Also, the low number of teachers in the Proficient profile, and therefore an uneven distribution of the sample across the three profiles, may have led to limited power to detect significant differences between the profiles. With one profile including only six

teaches, the results of follow up analyses, including the covariates, student outcomes and teacher outcomes, could have been affected. Perhaps a more even distribution of teachers across the three profiles would have yielded more significant differences between the profiles for the covariates and dependent variables. Another a limitation of the sample is that all of the participating teachers and students are from one school district in one state. Thus, the results of this study cannot be generalized to all teachers and all students.

Further, classroom observations were conducted during a short period of time, with all observations of one classroom often occurring in the course of a single day. While these observations provide researchers with a snapshot of the classroom management strategies and student behaviors which occurred during the observation period, it cannot be assumed that those are the behaviors in which the teacher and students engage every day. Participants often behave differently when they are being observed and researchers often conduct many observations in classrooms to counter this effect, assuming the teacher and students will become accustomed to being observed and act in their normal manner. Therefore, because the observations in this study were often conducted over the course of a single day, they cannot be generalized to the actual behavior of the teachers and students.

In addition, the use of the CEC to develop teacher profiles is a limitation. The CEC is a relatively new observational tool and has not been thoroughly researched to determine its reliability or validity. Thus, the CEC has little psychometric information supporting its use in research studies.

While this study included many of the critical aspects of effective classroom management, there are some factors missing because of the feasibility of data collection. Teachers' instructional practices significantly contribute to the classroom climate and some practices were not included in the Instructional Management section of the CEC. Those practices include instructional support for learning (Curby et al., 2009) and matching instructional material and students' knowledge (Gickling, & Armstrong, 1978). Curby and colleagues (2009) demonstrated that students whose teachers had high levels of instructional support and moderate levels of emotional support scored higher on vocabulary and academic assessments than students whose teachers had different profiles. Further, when the instructional material is too difficult for the students, problem behaviors are more likely to occur (Martens & Kelly, 1993). Future research would include teachers' instructional support and students' instructional match as indicators in profiles.

Finally, the MBI and OSTES were given to teachers to complete once, during the first months of the school year. Through provision of these measures to teachers only once, at the outset of the school year, it assumes that burnout and self-efficacy are static constructs. However, this does not consider that perhaps feelings of burnout and self-efficacy fluctuate according to time of year, student behaviors, work-related pressures, or personal factors. Thus, the measures of teacher reported levels of burnout and self-efficacy used in the present research may not completely account for the variability of these constructs.

## **Future Directions for Research**

The current research study took a cross sectional look at teacher classroom management strategies, student behavior and teacher burnout. As part of a larger intervention study, classroom management indicators and teacher and student level variables could only be examined at baseline, due to the division into control and treatment conditions after baseline data collection. Future research would investigate how the teacher classroom management profiles affect student behavior and teacher burnout as the school year progresses. The current study found significant differences in student level aggression, but not disruptions among students. Future research would investigate how teacher profiles would affect student levels of aggression and disruptions throughout the school year.

Further, if teachers with the Proficient classroom management profile had students with higher levels of on-task behavior and lower levels of off task behavior, would that translate to higher standardized academic assessment scores at the end of the year? It is assumed that when students are more on-task during academic instruction they are more engaged in the lesson and absorbing more of the information. Future research can investigate if nine months of increased amounts of time on task translates into increased scores on academic assessments compared to classrooms which have lower levels of time on task.

The lack of differences in teacher reported levels of burnout was surprising, but might be explained because of the timing of the data collection. Future research can investigate if teachers with Typical and Ineffective profiles have increased levels of burnout as the year progresses. It is assumed that all teachers will have increased levels

of stress and burnout as the year progresses, however do the three profiles differ significantly in their levels of burnout? If classrooms with the Proficient profile of classroom management have lower levels of aggression and disruptions, and higher levels of academic achievement at the end of the year, perhaps teachers in those classrooms will have lower levels of stress and burnout. However, it is also possible that teachers who have better student outcomes become stressed and burned out by using all of their energy to achieve those outcomes.

Next, while a model solution was found, many of the hypothesized indicators were not included in the final solution for statistical reasons, including OTRs and pre-corrections. It is possible that these variables, among others significantly contribute to teacher profiles and student behavior. Using a larger sample, researchers may find other classroom management profiles that include those strategies.

Finally, researchers should continue to investigate strategies of classroom management. The current research investigated profiles of multiple classroom management strategies, but found minimal significant relationships between student outcomes and no significant relationships between teacher outcomes. However, researchers investigating single strategies have found significant relationships between classroom management strategies and student and teacher outcomes, including, but not limited to: rates of praise and teacher self-efficacy in classroom management and harsh reprimands and teacher emotional exhaustion (Reinke et al., in press); OTRs and student disruptions and time on-task (Haydon et al., 2010), praise to reprimand ratio and student disruptions and time on-task (Leflot et al., 2010) and self-efficacy and burnout (Fives et al., 2007). Thus, combining multiple teacher strategies into profiles may not be the

optimal may to investigate teacher classroom management and its relationship with student and teacher outcomes. Additional research utilizing both multiple and single strategy methods could add to the literature to provide the field with a more informed manner of the best way to pursue further research.

## **Conclusions**

Effective classroom management skills are essential for children to develop the social and academic skills they need to become contributing members of society (Colvin, 2009; Walker, 2009). Research has demonstrated techniques that improve student behaviors and promote a positive classroom climate (Kern, & Clemens, 2007; Simonsen et al., 2008), including praise (Brophy, 1981; Sutherland et al., 2000), clear behavioral expectations (Sharp et al., 1995; Sugai, & Horner, 2002) and appropriate instructional management (Burns et al., 2010; Carnine et al., 2006). However, teachers often feel a lack of preparation to manage their classrooms (Markow et al., 2006) and cite student misbehaviors as a top reason for leaving the profession (Haberman, 2004). To prevent student misbehaviors and teachers from leaving the profession prematurely, teachers would ideally use a variety of effective classroom management techniques to reduce student misbehavior.

This study identified profiles of multiple classroom management strategies and evaluated how those teacher profiles were associated with teacher efficacy, burnout, and student behavioral and social competence outcomes. The findings demonstrate that teachers used several classroom strategies at varying rates. Also, teachers who used more praise, had clearer behavioral expectations, and better instructional management had less aggressive and off task behaviors in their classrooms.

The results highlight the need for teachers to receive more pre-service training in effective classroom management strategies and opportunities to practice those strategies and receive feedback prior to entering the field. Further, once they are in the field, teachers should be provided on-going consultation related to classroom and individual behavior management. School psychologists often have the training and expertise to provide these services to teachers in order to prevent high quality instructors from leaving the field. Hopefully by aiding teachers to implement effective classroom management techniques, teachers will have more time to teach and the students will experience greater academic success.

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## Appendix A: MOOSES Codes

### Teacher Behaviors

**Opportunities to respond.** An opportunity to respond (OTR) is defined as an instructional prompt that requires immediate academic response to the teacher. OTRs include statements, gestures, or visual cues.

Examples:

- “Wendy, what is  $2 + 2$ ?”
- The teacher directing the class “Please write the answer to number five on your white boards and hold them up when you are finished.”
- For OTRs that are choral responses, each discrete response was coded as an OTR. For example, if the teacher were pointing to letters in the alphabet, “A, ‘a’, apple” would count as one OTR and B, ‘b’, bat” would count as another.
- Instances of students reading lines from a play for each time a student read his/her part.

Non-examples:

- Singing.
- Dancing.
- Stretching.
- Spelling tests.

**Praise.** Praise statements were classified as being general or specific. General praise is defined as a praise statement or gesture which indicates approval and does not name a specific behavior. Specific praise is defined as a verbal statement or gesture which indicates approval and names a specific behavior. Specific and general praise are coded

during each observation depending on whether they are directed toward the target student or another student. If praise is directed at the whole class or a small group in which the target student is part, it is coded as praise-other.

Examples:

General praise:

- “Thank you.”
- “Great job.”
- “Correct answer.”
- “Good question.”

Specific praise:

- “Thank you for answering.”
- “Good thinking.”
- “Thank you for sitting quietly.”
- “Aaron has his eyes on me.”
- “I’m looking for line basics. Sarah has line basics, so does Jenny. And Claire does too.” (Coded as three specific praises.)

**Reprimands.** An explicit reprimand is defined as a verbal comment or gesture made by a teacher to indicate disapproval of behavior; it is concise and in a normal speaking tone. A harsh reprimand is defined as a verbal comments or gesture which indicates disapproval of behavior using a voice louder than typical for setting or harsh, critical or sarcastic tone.

Examples:

Explicit reprimands:

- “Eyes on me please” (when students are not looking at the teacher and should be).
- “Hands to self” (when one student is touching another student).

Harsh reprimands:

- Teacher saying sarcastically “What a surprise, your work isn’t finished.”
- Teacher raises voice to say “Look up here, I am talking”.

**Pre-corrections.** Pre-corrections occur when the teacher provides specific prompts or reminders about the behavior expectation before a behavior is needed. Prompts regarding academic expectations were not coded as a pre-correction.

Example:

- “Remember to raise your hand if you have a question”.

Non-example:

- “Remember to raise your hand to answer” (if stated after several students shout out an answer).

### **Student Behaviors.**

**Disruption.** A disruption was coded when a student displays a behavior which disturbs or has the potential to disturb the class. Disruptions were coded when the disruption was performed by the target student or any other student in the class.

Example:

- When a student would ask a question or make a comment that was unrelated to the subject matter.
- When student calls out and teacher reprimands. “I have to use the restroom!” followed by “Not now. Use the pass later.”

- A disruption will be coded if the target child was not following teacher directions and the teacher provided proximal praise to a student who was following directions. If the teacher says “I like how Bill raised his hand! Yes, Bill?”, after Ann calls out, a disruption would be coded.

Non-example:

- A ‘call out’ was not coded as a disruption if the teacher ignored it. “I have to use the restroom!” followed by no response from the teacher.

**Aggression.** An act of aggression was coded when a student was physically or verbally aggressive toward an object, peer or teacher. Since aggression is a form of disruptive behavior, when aggression was coded, disruption was not. Aggression was coded even if there was no teacher reprimand, as often aggressive acts occurred when the teacher was not looking.

Examples:

- Hitting a peer.
- Swearing at a peer.
- Flipping off the teacher.
- Yelling “shut up” at a peer.
- Two students were calling each other names would be coded as two aggressive acts.

**On-task, Off-task and Downtime.**

On-Task: Being on-task is defined as the student being engaged with instructional content or activity by choral responding, raising hand, responding to teacher

instruction, listening, writing, reading or otherwise completing assigned task. If the student was passively engaged, he/she was coded as being on task.

Off-task: The target student is coded as being off-task when he/she is obviously not working on the assigned task or attending to the task or lesson. To be coded off-task, the student was obviously off-task.

Downtime: Downtime was coded when there were no clear classroom expectations. A five second rule was used prior to switching the duration code to downtime.

Example: When the teacher stops teaching to answer the phone and remains on the phone for more than 5 seconds.

## VITA

Ann Girard (Tweet) Clare was born in Omaha, Nebraska on September 16, 1982. She is the daughter of Donald K. Tweet and Susan D. Taylor. She was raised in Ashland, Nebraska and graduated from Ashland-Greenwood High School. She then attended the University of Nebraska-Lincoln, where she majored in Biological Sciences, with minors in Spanish and Psychology. She earned her Bachelors of Science degree from University of Nebraska-Lincoln in December 2005. Ann worked for Cedars Youth Services from May 2005 until July 2008. Ann entered the school psychology program at the University of Missouri-Columbia in August 2008. She earned her Master of Arts in School Psychology in May 2011. She is completing her pre-doctoral internship at Devereux's Professional Psychology Internship Training Program.