Childhood aggression in schools: The impact of behavioral patterns and contextual influences on teachers' cognitive, affective, and behavioral responses

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ABSTRACT

Despite considerable advances in the development and implementation of school-based interventions, aggressive behavior in schools remains a significant problem for both educators and the community as a whole. The present study was designed to examine possible contextual influences on the course and treatment of aggression in schools, in an effort to inform future intervention development. The aim of the present study was to examine possible influences on teachers' response to reactive and proactive aggression in the classroom, and test the applicability of Weiner's attributional model of motivation and emotion. A sample of 121 middle school teachers completed self-report measures of teaching characteristics, efficacy, stress, and burnout. They also responded to four vignettes of student aggression with measurements of proposed attributions, affective reactions, and interventions. A series of ANOVAs showed that teacher's proposed responses differed as a function of child aggression subtype, teacher stress, burnout, efficacy, and training. Multiple regression analyses were used to test Weiner's theoretical model, as well as consider the moderating influence of teacher characteristics. Findings failed to support the application of Weiner's model to the current sample. Alternative patterns of moderation and mediation were significant, however. Implications of study findings were discussed as they relate to relevant theoretical models and recent advances in clinical and educational research.

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List of Tables

List of Figures

Table of Contents

INTRODUCTION

Aggression and Violence in Schools

Aggressive behavior among children is common and in many forms not of clinical concern. However, for a percentage of school-aged youth, aggressive behavior in schools remains a significant problem for both educators and the community as a whole. Although single incidents of physical aggression, threatening, and weapon possession have reportedly decreased since the 1980's, the prevalence of repeated aggressive behavior (i.e., more than one incident by the same person) has not (Kingery, Coggeshall, & Alford, 1998). It is estimated that between 5 and 10 percent of children display clinically significant forms of aggression (Kingery, et al., 1998). This means that *every* regular education teacher may have at least one such child in each of his or her classes. For these youth, aggressive behavior also tends to increase in frequency and severity over time (Loeber, Green, Lahey, Frick, & McBurnett, 2000). Clearly, there remains a need to better understand factors that predict, and ultimately lead to successful amelioration of, aggressive behavior problems.

Research on the outcomes of childhood aggression, both within and outside the school setting, confirms the severity of this problem. For the aggressive child, such behavior has been shown to seriously interrupt his/her academic development and limit exposure to prosocial peer interactions (e.g., French & Conrad, 2001; Frick, 1998; Loeber & Farrington, 2000; Tremblay et al., 1991). In regards to school functioning, highly aggressive children often face the combined effect of classroom discipline problems and academic achievement difficulties. Between 11% and 61% of children with conduct problems and aggression have a significant learning disability (Hinshaw, 1992). However, school policies generally mandate that aggressive students be immediately removed from the school (through suspension or expulsion) to ensure that individuals or school property will not be further harmed (Council for Children with Behavioral Disorders, 1995). As a result, aggressive students undoubtedly face decreased exposure to critical academic concepts taught in the classroom and fall further behind in their academic progress. Continued academic challenges and failures may then serve to exacerbate problem behaviors in the school setting (Hinshaw, 1992).

Aggression has been identified as the single most important cause of peer rejection (Coie, Dodge, & Kupersmidt, 1990), with almost two-thirds of highly aggressive boys being rejected by their peers (Coie, Underwood, & Lochman, 1991). Additionally, aggressive children are more likely than non-aggressive children to maintain affiliations with other deviant peers and exhibit delinquency later in life (Dishion, French, & Patterson, 1995; Moffitt & Caspi, 2001). In the context of a deviant peer group, aggression may become the norm (and perhaps a mark of popularity) rather than the exception. Indeed, rejection from appropriate peers and association with deviant friends is thought to reinforce aggressive behavior (Coie, Terry, Lenox, & Lochman, 1995).

Not surprisingly, this behavior also presents significant negative consequences for those interacting with the aggressive child. According to the National Youth Risk Behavior Study, between 4% and 11% of students nationally report feeling unsafe in school because of student violence either in school or in transit to and from school (Centers for Disease Control and Prevention, 1997). In this same study, a concerning proportion of male (between 4% and 6%) and female (between 3% and 5.5%) students report feeling too unsafe to attend school at least once over the course of 30 days. Rates peak among middle school and early high school students. Moreover, there remains the continued occurrence of highly problematic incidents such as recent school shootings across the United States. Although tragic events such as those witnessed by students in Littleton, Colorado, Springfield, Oregon, and Jonesboro, Arkansas are rare, they leave a lasting feeling of shock, apprehension, and grief among students.

For teachers, aggressive behavior problems tend to be viewed more negatively than any other child clinical problem (Safran, Safran, & Barcikowski, 1990). Teachers also endorse serious consequences of having aggressive youth in their classrooms. Student behavior and discipline problems (e.g., verbal disrespect, violence) are the primary reasons cited for teacher stress and burnout (Byrne, 1994; Friedman, 1995). Research has also shown that teachers' interactions with their students are negatively affected by their stress level, such that they use more harsh discipline and spend less time engaging students in a positive manner (Bibou-Nakou, Stogiannidou, & Kiosseoglou, 1999; Capel, 1992).

Shores, Gunter, and Jack (1993) found that patterns of teacher-student interactions with aggressive

children were similar to coercive parent-child relations that are frequently observed in families of aggressive youth. This is quite disparate from how teachers usually approach classroom behavior problems, given that they most consistently endorse positive or neutral behavior management strategies (Bibou-Nakou et al., 1999). It is possible that this coercive pattern is related to attributions made about observed aggressive behavior. Aggression is more often judged to be caused by internal, stable, and controllable aspects of the child. In turn, this attribution judgment is associated with increases in negative relations and coercive strategies to address child behavior among parents (Baden & Howe, 1992; Dix & Lochman, 1990; Freeman, Johnston, & Barth, 1997; Mavropoulou & Padeliadu, 2002) as well as teachers (Bibou-Nakou et al., 1999; Poulou & Norwich, 2000). Despite the recognized needs of these youths, reactions to aggression may serve to maintain the cycle of negative interactions for them across domains. However, there remains a need to further study the process underlying negative relations between aggressive youth and others with whom they interact.

School-Based Interventions

Schools generally utilize two outlets in addressing aggressive behavior problems among students, including a) management of problem behavior, and b) teaching appropriate behavior (Kavale, Forness, & Walker, 1999). Both can occur directly in the classroom, in which case the teacher is responsible for providing the appropriate intervention. These interventions can also occur in a setting outside the classroom, in which responsibility for implementation lies in the hands of other school personnel (e.g., guidance counselors, administrators).

Within the classroom, techniques to manage problem behavior may include physical arrangements, increased organization and monitoring of student activities to decrease opportunities for aggression, and consequences or restrictions following inappropriate behavior (e.g., Walker, Colvin, & Ramsey, 1995). A wide array of prevention and early intervention programs has also been designed for delivery in the classroom setting. These are designed to build skills among students and create a norm of more appropriate classroom behavior. For instance, Shure and Spivack's (1982) *I Can Problem Solve* program

involves teacher-delivered lessons that promote alternative thinking strategies to aid in conflict resolution and reduction of antisocial behavior. Programs such as this cater to the academic setting by providing structured lesson plans and curricula, reproducible teaching materials and illustrations, and teacher scripts. However, classroom based programs are highly dependent on the skill and comfort level of the teacher as well as the time available to implement non-academic content. Unfortunately, this is often not formally assessed and accounted for as part of intervention delivery.

Serious or repeated aggressive behavior, on the other hand, elicits more formalized responses from school officials. Most commonly, schools attempt to manage behavior with traditional punitive intervention strategies (e.g., suspension, expulsion). However, for a subset of aggressive youth, schools are legally required to detail more individualized accommodations and responses to inappropriate behavior. The Education for the Handicapped Act of 1975 required school districts to provide students with psychological services to accommodate limitations that hinder a child's opportunity to fulfill his/her educational needs (Furlong, Morrison, & Pavelski, 2000). This can include accommodations (e.g., preferred seating), interventions (e.g., group counseling), and supports (e.g., one-on-one aide) for children with severe emotional and behavior problems both within the regular classroom setting as well as more restrictive environments for those who cannot function in a regular classroom. Unfortunately, many schools do not have access to, or are not equipped to provide, the types of services shown in the clinical literature to benefit aggressive youth.

In response to the need for effective implementation of school-based psychological interventions, there has also been an increased focus on adapting empirically supported clinical interventions for this setting. In contrast to traditional academic services and disciplinary methods, notable developments have been made in the evaluation and empirical support of these clinical interventions (Weist, 1997). Among the interventions receiving empirical support are child-focused cognitive-behavioral oriented programs, which largely focus on teaching aggressive youth more appropriate processing of, and responding to, interpersonal situations (Coie et al., 1991). These programs have included one or more components designed to build social skills, problem solving, anger control, and appropriate decision-making.

Research has demonstrated a number of positive changes associated with child-focused interventions, including reduction of symptomatology (Dunn, Lochman, & Colder, 1997; Lochman, Coie, Underwood, & Terry, 1993), increases in positive parent-child interactions (Kazdin, 1996, 1997, 2000; Webster-Stratton & Herbert, 1994), and improvements in the child's social and academic functioning (Hudley & Graham, 1993; Lochman et al., 1993; Lochman & Lenhart, 1993). However, Kazdin (1995) acknowledges that, even after treatment, many youth remain outside the normative range of functioning in home and school settings. There also remain limitations in the long-term outcomes and the cross-situational success of intervention is not always evident (Dunn, Lochman, & Colder, 1997; Frick, 2001; Offord & Bennett, 1994). Given continued limitations in the existing interventions for youth with aggressive behavior problems, numerous researchers suggest the need to shift research focus to factors that may influence treatment outcome.

Contextual Influences

It is important to note, and increasingly recognized, that interventions are not delivered in a vacuum. This is particularly the case when interventions take place in the school system. The trend in intervention research suggests a departure from asking whether an intervention works. Instead, in recognition of individual differences and contextual influences, Kazdin (2000a) and others promote an investigation of *for whom* and *under what conditions* interventions work.

Looking beyond the content of clinical and academic interventions, it is possible to identify a number of contextual factors within a school that may relate to intervention outcomes. These may include characteristics of the child (e.g., specific features of aggressive behavior), characteristics of school members who respond to (or interact with) aggressive students (e.g., classroom teacher, peer group), and factors associated with the school context more generally (e.g., student-teacher relationships, school procedures). Such characteristics may have notable impact on the success and generalization of school-based interventions. A selection of factors included in the current study will be discussed in further detail.

Child Characteristics

Type of Aggression. Aggression can take many forms. Differences in the expression of aggression have led researchers and clinicians to consider alternative ways to classify this problem as a function of its heterogeneity (Loeber & Stouthamer-Loeber, 1998; Price & Dodge, 1989). Recent efforts, inspired by Dodge's (1980) large-scale studies of aggressive boys, have suggested a distinction in aggression based on two primary subtypes: Reactive and proactive aggression. The first subtype, reactive aggression (i.e., hostile, affective), is characterized by a maladaptive defensive response following perceived or actual threat or provocation (Price & Dodge, 1989; Vitaro, Gendreau, Tremblay, & Oligny, 1998; Waschbusch, Willoughby, & Pelham, 1998). Behavior often is characterized by elevated impulsivity and anger arousal disproportionate to the situation to which the child is responding. A second subtype, proactive aggression (i.e., instrumental, predatory), is recognized as a pattern of unprovoked, deliberate, and goal-oriented aggressive actions (Dodge & Coie, 1987; Dodge, Lochman, Harnish, Bates, & Petit, 1997; Vitaro et al., 1998). Proactive aggression is largely explained by processes implicit in Bandura's (1973) social learning theory. According to this theory, aggression can be defined as a learned behavior regulated by external rewards and outcome expectancies (Brown, Atkins, Osborne, & Milnamow, 1996).

Although these two patterns of aggressive behavior tend to be moderately to highly correlated, research supports a distinction between subtypes (Dodge & Coie, 1987). The two behavior types are differentially associated with various social patterns (Poulin & Boivin, 2000; Price & Dodge, 1989), cognitive characteristics (Dodge & Coie, 1987; Hudley & Friday, 1996), and particular clinical diagnoses (Vitaro et al., 1998; Waschbusch et al., 1998). For instance, research has shown that reactive aggression is more strongly associated with attention problems, poor impulse control, and depressive symptoms as compared to proactive aggression (Dodge et al., 1997).

Additionally, Vitiello and Stoff (1997) contend that reactive and proactive aggression may respond differently to certain types of treatments. Reactive aggression is thought to respond better to child-focused treatments that emphasize frustration tolerance, social skill building, cognitive restructuring, and anger management. Alternatively, proactive aggression may respond more positively to parent or teacher

training of behavior management techniques, where children are reinforced by their parents and teachers for positive rather than negative actions. Given these variations, it is possible that teachers also perceive children and their intervention needs differently as a function of the aggression subtype they exhibit. However, with few exceptions, there is a dearth of existing literature exploring the influence of aggression subtype on teachers' perceptions and responses.

A small number of recent studies have considered the utility of these subtypes as part of school-based evaluations and interventions for aggression. For instance, Poulou and Norwich (2000) evaluated teacher attributions, affective reactions, and behavioral responses in a within-subjects design across six different vignettes describing mild and severe behavior problem types. Differences were found between proactive-like behaviors (i.e., non-emotional conduct problems) and reactive-like behaviors (i.e., emotional conduct problems) in ratings of attribution locus and stability, as well as affective responses. Teachers were more likely to rate reactive-like behaviors as caused by internal/stable characteristics, as compared to proactive-like behaviors (ES=0.59). In the same comparison, teachers also rated higher likelihood of feeling sympathy for reactive-like behaviors than for proactive-like behaviors (ES=0.34). However, disciplinary strategies did <u>not</u> differ to a large extent by behavior type in this study.

The issue of aggression subtypes is one of continued theoretical and empirical controversy. Given the need to curb the harmful effects of aggressive behavior in schools, it is critical that researchers first determine the most appropriate means of defining aggression and test the applicability of the definition. However, in both educational and psychological arenas, there remains a need to advance research focused on this goal.

Secondary Effects of Treatment. It is also likely that individuals consider factors outside of present behavior when responding to classroom aggression. For instance, Johnston and Leung (2001) found that thoughts and reactions of parents about childhood externalizing problems shift as a function of a child's participation in treatment. It is possible that teachers' causal explanations for a child's behavior problems are also affected by information regarding that child's prior treatment status. As an example, following completion of social skills training, teachers may come to believe that aggressive behavior in a child is

more willful and intentional (rather than related to a skills deficit), given the expected skill development acquired through treatment. They may then respond with more harsh punishment. This, in turn, may influence the generalization and maintenance of treatment outcomes.

In fact, Johnston and Leung (2001) have demonstrated the influence of a child's prior treatment status on parents' attribution and reactions to child behavior problems. They asked parents to give ratings of causal locus, controllability, stability, intentionality, and affective reaction, after reading different hypothetical vignettes of childhood behavior problems. Results showed that treatment status served as a condition under which attribution and reaction ratings differed significantly. For noncompliance behavior, higher ratings of controllability and intentionality, but lower ratings of stability, were found in the treatment condition, as compared to the no-treatment condition. Effect sizes (ES) for the difference between mean ratings in the treatment and no-treatment conditions ranged from 0.13 (locus) to 0.75 (controllability), with most ESs found between 0.30 and 0.55. In addition, negative affective reactions to this behavior were more strongly endorsed in the treatment conditions.

Unfortunately, this is the only study to date that evaluates the influence of prior treatment information on attribution and reactions to child behavior problems. However, it is probable that these findings are replicable and may apply to others who adopt care-taking roles (i.e., teachers) and interact with aggressive children.

Respondent Characteristics

Differences in responses to childhood aggression are also influenced by characteristics of the person who observes the aggressive behavior. Respondents vary as a function of their role and responsibility in the setting that aggression took place (e.g., Guttman, 1982). For instance, a classroom teacher who is expected to maintain order and safety will likely differ in his/her response as compared to a fellow student or a bystander. Response to behavior problems also relates to one's personal and professional attributes (Bondy & Mash, 1999; Borg & Falzon, 1990). Indeed, a number of characteristics have been found to influence teachers' reactions towards children with academic and behavior problems. However, considerably less attention has been focused on responses to aggressive behavior per se.

Training. Training for teachers can take many forms. This can include specialized workshops and in-services, on-the-job mentorship and consultation, as well as academic coursework through a college or university. Although limited in scope, research supports the value of teacher training in the area of emotional and behavioral disorders. Not only is this form of training highly valued by teachers but also it is effective in improving multiple aspects of the classroom setting. For instance, in a study of issues related to teacher training, Merrett and Wheldall (1993) administered structured interviews to teachers to assess their perception of the need for, and benefits of, specialized training for handling behavior problems. Many teachers reported that classroom management skills were of major importance to them professionally and approximately one-third felt that they had not received sufficient training in this area. Teachers also felt that additional training could reduce stress among teachers and behavior problems among students. Additionally, Kandakai and King (2002) found that pre-service teachers' confidence in teaching violence prevention to students was positively related to whether they had advanced certification in special education and/or specific training in violence prevention.

Research has also demonstrated support for the importance of teacher training in the improvement of teachers' response to problem behavior and in the overall classroom environment. For instance, Cunningham and Sugawara (1988) found that teachers with no specialized training were more likely to endorse higher costs associated with behavior problems than were more advanced teachers. Teachers are also more accepting of, and more likely to employ, interventions that are viewed as less complex or better understood (Elliott, Witt, Galvin, & Peterson, 1984). This would be expected as an outcome of specialized training in these areas. In fact, with training, gains are found in teachers' knowledge of behavior problems, application of training content, as well as more general effectiveness in classroom management and instructional strategies for use with problem students. This is demonstrated across studies that test implementation of specific interventions for classroom behavior problems (e.g., Allen & Blackston, 2003; Sawka, McCurdy, & Mannella, 2002; Swinson, & Cording, 2002). These studies also show that changes in teacher behavior, in turn, lead to improvements in target student behavior and in the overall classroom environment.

Despite the support for teacher training, this area of research remains relatively underrepresented in the literature. Furthermore, little is known about the process by which training relates to positive gains observed in teachers and their classrooms. For instance, it is highly likely that teachers increase their knowledge about the etiology, presentation, and treatment of behavior problems as a function of training. However, the impact of training on other factors related to intervention decisions (e.g., affective reaction to behavior problems) is not well understood.

Stress and Burnout. Psychosocial characteristics among teachers have also received considerable attention in recent literature. The focus on stress among teachers first emerged in the late 1970's (Kyriacou, 2001) in response to high rates of teacher turnover, and has since become a major topic of research interest. There is increased concern over the rates of stress reported among teachers. However, comparatively more research conducted in this area has focused on sources or predictors of teacher stress rather than its consequences (Friedman & Farber, 1992).

Similar interest is found in the evaluation of burnout among teachers, given the increasing demands on (and decreasing supports for) educators. Although much overlap exists between the concepts of stress and burnout, and the terms are often used interchangeably, existing literature suggests that a differentiation is warranted. In the educational literature, numerous definitions of the term "teacher stress" have been offered. They generally reflect some degree of mismatch between the demands on the teacher and his/her ability to cope with these demands, which manifests as some sort of negative emotional reaction (Kyriacou, 2001). The term "burnout" is typically defined as a more complex syndrome of negative reactions, including emotional exhaustion, depersonalization, and reduced personal accomplishment, in response to occupational stressors (Brouwers & Tomic, 2000; Maslach, 1993). Specifically, emotional exhaustion is characterized by feelings of being emotionally overtaxed and lacking emotional resources. Depersonalization refers to callous or excessively detached responses to others. Reduced personal accomplishment is a self-perception that one has declined with respect to job performance. In relation to stress, burnout is thought to occur after a prolonged experience of unmediated stress (Friedman, 1995). Rogers and Hudson (1995) also suggest that a key feature in the transition from

experiencing stress to burnout is a lack of emotional control and one's tendency to ruminate about negative emotions.

It is not surprising to find that both stress and burnout impact a teacher's reaction to student behavior problems. These negative reactions are associated with decreased quality of teaching, less flexibility and acceptance with regard to various student needs, and poorer overall teacher-student interactions (Capel, 1991). Researchers have found that student behavior and discipline problems (e.g., verbal disrespect, violence) are the primary reasons cited for teacher stress and burnout (Byrne, 1994; Friedman, 1995). As such, there is a need to further explore the relation between heightened stress and perceptions of, as well as reactions to, children with aggressive behavior problems. It is likely that teachers experiencing stress are more likely to view child misbehavior as more problematic and taxing, and as such, react more negatively to it. This may also contribute to the development of burnout among teachers, and in turn, the maintenance of negative reactions to student needs.

According to Bibou-Nakou and colleagues (1999), teacher stress is also related to attributional patterns and preferred teaching practices. These authors asked teachers to ascribe causal explanations and proposed reactions to particular child behavior problems, including disobedience. In general, teachers were more likely to rate disobedience as caused by internal student-related factors (e.g., personality) rather than factors external to the student (e.g., teacher characteristics, school environment). This attribution pattern was even more likely for teachers who scored high on ratings of personal accomplishment, suggesting that attributing behavior problems to factors outside one's self (and to the student) may serve to protect teachers from later stress.

Despite the overlap observed in the literature, it will be useful to further explore the relation among stress and burnout and to test the impact of these psychosocial characteristics on teaching behavior. Specifically, there remains a need for more evidence to determine whether the concept of stress should be placed along a continuum with burnout, as conceptually similar but differing by degree of severity.

Teacher Efficacy. Podell and Soodak (1993) suggest that a teacher's willingness to work with difficult students may depend on their beliefs about their ability to affect change. The construct of self-

efficacy is based on Bandura's social learning theory (1977). According to Bandura, self-efficacy refers to "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). He further notes that one's self-efficacy is based on active and observational learning experiences, as well as feedback provided by other individuals and one's own physiological responses during these experiences. Bandura (1997) also asserts that self-efficacy has an important indirect relation to one's functioning, by impacting one's goals and goal-attaining strategies, motivation and persistence, self-perception during goal-directed activities, and selection of situations in which to attain one's goals. Teaching efficacy has been conceptualized as a more specific dimension of efficacy, reflecting the roles that a teacher takes.

According to recent empirical investigations, teacher efficacy is related to the selection of classroom management techniques. Higher teacher efficacy is related to a higher likelihood that positive, helping strategies will be used with child behavior problems (Schwartz, Wolfe, & Cassar, 1997; Soodak & Podell, 1997). In studies where teachers were presented with hypothetical vignettes of child behavior problems, high efficacy was related to increased efforts to address these problems on one's own rather than refer to an outside professional (Hughes, Barker, Kemenoff, & Hart, 1993). In addition, findings from the work of Saklofske, Michayluk, and Randhawa (1988) suggest that self-efficacy is also inversely related teachers' experience of stress, emotional exhaustion, and negativity towards others. Under the condition of low teacher efficacy, child behavior problems were viewed as a greater source of stress, and in turn, lead to more negative disciplinary actions.

The impact of self-efficacy on teachers instructional and classroom management practices seems to be gaining empirical support. However, the process by which efficacy impacts teachers' reactions to behavior problems in the classroom is not well understood. Bandura (1997) suggested the importance of one's cognitive and affective processes (e.g., goal-setting, motivation) as pathways by which self-efficacy influences one's behavior. There remains a need to further evaluate the indirect impact of self-efficacy among teachers in particular and to better explain the process by which this relation is found.

Evaluating Relevant Theoretical Models

In order to understand the conditions under which contextual influences may impact responses to aggressive behavior, it is helpful to consider relevant theoretical models. Although many currently exist, this paper examines the applicability of Weiner's attributional model of motivation and emotion in order to evaluate whether various responses to aggressive behavior are related in a predictable manner.

Weiner's Attributional Model of Motivation and Emotion

The need to invoke causal explanations to understand behavior is suggested throughout early scientific literature. Heider (1958; 1967) offered the first formal conceptualization of causal models of behavior. His early formulations of attribution theory sparked a shift in research from the study of individuals' description of events happening to them in the world to a search for causes of those events (Antaki, 1982). Heider argued that people are generally motivated to find explanations for events in their lives, as part of their search for understanding and mastery. He further proposed that the search for causes, rather than just qualities, of things was among the predominant tasks in social perception. In this process, he suggested that causes could be broken down into personal and environmental influences. For instance, through his work in the achievement domain, Heider (1958) found that individuals differ in their views regarding the role of task difficulty (an external influence) and a person's ability and effort (internal influences) when evaluating achievement performance.

Weiner's main contribution to Heider's original conceptualization was an expansion of the possible attribution dimensions from which behavior could be explained (Weiner, 1979; Weiner, 1976; Weiner, 1970). In particular, Weiner (1982) has shown that specific causal explanations fall along three main dimensions, namely locus of causality, controllability, and stability. Weiner's interest was not only in the description of these dimensions, but also in hypothesizing the different psychological and behavioral responses one would have as a function of certain attribution patterns along these dimensions. As such, he developed a theoretical model that specified the pathway from which a particular situational outcome initiates the attributional process (Weiner, 2001).

According to his model, the relation between a particular outcome and one's response to that

outcome is mediated by the attributions formed about the outcome and the psychological reactions that were thought to result from those attributions. For example, if an adolescent boy has been exhibiting aggression since early childhood, his parents may assign high stability ratings, feel sad and hopeless, and, as a result, stop trying to make changes in his behavior. Similarly, if these problems are viewed as under the intentional control of the boy, his parents may react by feeling angry. This, in turn, may lead to greater punishment and harsh discipline rather than seeking help and providing nurturance.

This model has received extensive empirical support in normative populations (e.g., Caprara, Pastorelli, & Weiner, 1997; Graham & Weiner, 1991; Weiner, 1995; Weiner, & Graham, 1999; Weiner, Graham, & Reyna, 1997; Yirmiya & Weiner, 1986). For instance, Graham and Weiner (1991) presented subjects with two vignettes of someone in need of aid, while manipulating information about the controllability of the person's need. Under the condition of high controllability, participants rated the outcome as more controllable, but also reported feeling more anger and less pity. Under this condition, they also indicated that would be less likely to help the target person. In this study, perceived control was found to indirectly relate to likelihood of helping by way of changes in affect. Across all age groups this model was significant. Similar trends were found in the application of this model to professional settings. Struthers, Weiner, and Allred (1998) evaluated the fit of Weiner's model to predict personnel decisions for poor work performance among workplace supervisors. In this study, the relation between attributions of low effort for poor work performance and use of reprimands was mediated by negative affective reactions toward the target worker. Alternatively, feelings of sympathy mediated the relation between attributions of low ability and use of consolation/support.

Elements of Weiner's model have also been studied as they pertain to clinical settings. There is some early support for the role of attributions in judgments of, and responses to, individuals with diagnosed mental illnesses. For instance, Lopez (1989) presented mental health professionals with clinical case studies and assessed the impact of attributions and affect on prognostic ratings and interest in providing help. This study partially supported Weiner's attributional model. Specifically, attributions of stability (but not controllability) related to prognostic ratings and desire to help the target patients.

Additionally, in all cases, participants' affect predicted their interest in helping, with elevations in feelings of pity significantly positively associated with helping. Contributions from the expressed emotion literature also note the significant association between family caretakers' attributions of responsibility for a target person's mental illness and their emotional reaction to that person (see Lopez and Wolkenstein, 1990 for further discussion).

Weiner's model has also been applied to the school setting across both children and adults. However, with some exceptions (e.g., Guttman, 1982) the primary focus has involved studies of academic achievement and motivation (Clark, 2000; Georgiou, Christou, Stavrinides, & Panaoura, 2002; Hughes, Barker, Kemenoff, & Hart, 1993; Weiner, Graham, & Chandler, 1982). This literature made a number of important contributions to the examination of attributions in the school setting. For instance, research has demonstrated that developmental factors impact attribution patterns formed by both children and adults. Specifically, individuals vary in their attributions of, and reactions to, a child's behavior as a function of the child's age. As they get older, children are thought to gain better control of their behavior, and as a result are more likely to be held responsible for behavior or academic problems (Bugental & Johnson, 2000; Jenson, Green, Singh, Best, & Ellis, 1998). This has important implications for children with chronic or recurring difficulties across the lifespan. Additionally, research suggests that children make judgments about themselves and their peers based on inferences from teachers' reactions (e.g., Chang, 2003). For instance, Weiner (1982) found that school-aged children made systematic predictions of teacher's attributions about a target student based on that teacher's affective reaction. Anger reactions by teachers led students to make attributions of low effort to the target child, pity reactions were associated with attributions of low ability, and guilt reactions were related to attributions of poor teaching. As a result, it is probable that students' own behavior toward a target child is impacted by such observations and predictions. Indeed, researchers (e.g., DeVries, Reese-Learned, & Morgan, 1991; Weinstein, 1993) have demonstrated that the quality of teacher-student relationships and teacher instructional practices shape classroom peer relationships, including peer rejection. Together, these findings provide further support for the need to understand teachers' attributions of, and reactions to, classroom behavior

problems, given the potential impact on their own behavior and that of others in the classroom context.

Across both non-clinical and clinical populations, research investigating Weiner's model has demonstrated its utility in predicting individuals' responses to others. However, it is important to note the contextual factors that impact the applicability of the model. Although results are promising, the limited scope of studies (particularly during the last decade) in this area of research also suggests the need to further test this model with particular settings and populations.

Initial Conclusions

Despite the advances made in the clinical and educational literature regarding school-based intervention for aggression, there remain many unanswered questions. The literature reviewed in this paper reflects psychological concepts (e.g., stress, efficacy, aggression) that have been extensively explored both theoretically and empirically; these are not new to our field. However, comparatively less attention has been given to the application of what we have learned from psychological research to the school setting. As such, there is a continued need for the intersection of psychological and educational research in the study of childhood aggression, given the clear impact of these behaviors, as well as the rich opportunities for clinical research, in the schools.

PRESENT STUDY

The aim of the present study was to expand upon prior research related to aggressive behavior problems and teachers' classroom management experiences, as well as examine the relevance of a theoretical model of social behavior. Four areas of focus were considered as part of this study. The first goal was to examine whether teachers' proposed attributions, affective reactions, and interventions vary as a function of differences in student characteristics. Specifically, the influence of aggressive behavior type (i.e., reactive, proactive) and student treatment history was evaluated through use of hypothetical vignettes about an aggressive student. The second goal was to examine whether teachers' responses varied as a function of their professional and psychosocial differences. The influence of training,

efficacy, as well as stress and burnout were considered. The third goal was to test the applicability of Weiner's attributional model to this study. In particular, the indirect relation between attributions and intervention suggestions was considered, with affective reactions evaluated as a possible mediator. The fourth goal was to examine the moderating effect of teachers' professional and psychosocial characteristics on the relation between attributions, affective reactions, and intervention suggestions. The following hypotheses were proposed:

Hypothesis 1: Attributions. It was expected that a teacher's attribution ratings of child behavior would differ as a function of whether that child has received treatment and the type of aggressive behavior presented in the vignette.

a. A main effect due to treatment condition was anticipated for ratings of controllability, intentionality, and stability. Higher teacher ratings of controllability and intentionality, and lower ratings of stability, were expected in the treatment condition as compared to the no-treatment condition.
b. A main effect due to type of aggression was expected for ratings of controllability, intentionality, and locus. Higher ratings of controllability, intentionality, and external locus of causality were expected in the proactive aggression condition as compared to the reactive aggression condition.
c. For attributions of intentionality and controllability, these main effects would be qualified by an interaction effect of the aggression and treatment conditions. Specifically, these attributions were expected to be significantly higher in the proactive/treatment condition than in the other three treatment/aggression conditions.

Hypothesis 2: Affective Reactions. It was expected that a teacher's proposed affective reactions in response to aggressive behavior of students would differ as a function of whether that child has received treatment and the type of aggressive behavior presented in the vignette.

a. A main effect due to treatment condition was anticipated. Higher teacher ratings on measures of negative affect (i.e., anger/irritation) and lower ratings on measures of sympathy/compassion

were expected in the treatment condition as compared to the no-treatment condition.

b. A main effect due to type of aggression was anticipated. Higher ratings on measures of negative affect and lower ratings on measures of sympathy/compassion were expected in the proactive aggression condition as compared to the reactive aggression condition.

c. However, these main effects were expected to be qualified by an interaction effect of the aggression and treatment conditions, such that negative affect would be significantly more likely in the proactive/treatment condition than in the other three treatment/aggression conditions and sympathy/compassion ratings would be significantly less likely in the proactive/treatment condition than in the other three treatment/aggression conditions.

Hypothesis 3: Proposed Intervention. It was expected that a teacher's proposed interventions to address the aggressive child would differ as a function of whether that child has received treatment and the type of aggressive behavior presented in the vignette.

a. Higher ratings on measures of punitive intervention strategies (i.e., punishment/threats) and lower ratings on measures of positive/helping strategies were expected in the treatment condition as compared to the no-treatment condition. A main effect due to treatment condition was anticipated.

b. Higher ratings on measures of punitive intervention strategies (i.e., punishment/threats) and lower ratings on measures of positive/helping strategies were expected in the proactive aggression condition as compared to the reactive aggression condition. A main effect due to type of aggression was anticipated.

c. However, these main effects were expected to be qualified by interaction effects of the aggression and treatment conditions, such that punitive intervention strategies would be significantly more likely in the proactive/treatment condition than in the other three treatment/aggression conditions and positive/helping responses significantly less likely in the proactive/treatment condition than in the other three treatment/aggression conditions.

Hypothesis 4: Teacher Characteristics. It was expected that a teacher's proposed attributions,

affective reactions, and interventions would differ as a function of teacher's professional and psychosocial characteristics. Increased training in working with children displaying serious emotional disabilities, decreased stress and burnout, and increased efficacy were all expected to influence teachers' affective reaction and intervention suggestions in response to vignettes. Specifically, teachers with prior training, low stress and burnout, and/or high efficacy were expected to report greater likelihood of positive and less likelihood of negative affective reactions and interventions in response to the vignettes as compared to teachers without such characteristics.

Hypothesis 5: Weiner's Model. It was expected that Weiner's model would be supported in that teachers' affective reactions would mediate the relation between their attribution and their intervention selected in each of the treatment/aggression subtype conditions. Specifically, negative affective reactions were expected to mediate the association between attributions and negative/punitive intervention strategies. Further, sympathetic/compassionate affective reactions were expected to mediate the association between attributions and positive/helping intervention strategies.

Hypothesis 6: Moderators. Certain teacher characteristics were expected to moderate the relation between attributions, negative affective reactions, and proposed punitive interventions.

a. If a mediation effect was found for negative affective reactions in explaining the relation between attributions and punitive intervention strategies, teaching efficacy, stress, and prior training was expected to moderate the relation between attributions and affective reactions. Specifically, under the condition of high efficacy, low stress, and/or prior training the relation between attributions and negative affective reactions would be less evident than it would be under the conditions of low efficacy, high stress, and/or no prior training.

b. If a mediation effect was not found for negative affective reactions, teaching efficacy, stress, and prior training were expected to moderate the relation between attributions and interventions. Specifically, under the condition of high efficacy, low stress, and/or prior training the relation between attributions and negative intervention strategies was expected to be less evident than it would be under the conditions of low efficacy, high stress, and/or no prior training.

METHOD

Participants

Teachers who taught students in grades five through eight were recruited from 31 public schools within a 30-mile aerial radius of Virginia Tech to participate in the study. School principals were first contacted by mail with a letter briefly describing the study and asking for school participation (Appendix B). A follow-up phone contact was initiated with school principals one week after sending the contact letter. Eleven principals and their schools agreed to participate; 20 schools did not. Of the latter, four principals reported that teachers were over-involved with other projects, five principals were interested but teachers were not, four (all in the same county) principals were interested but the county research coordinator did not give approval, four principals did not respond to three series of weekly messages left as part of follow-up phone contacts, and three principals did not want to add to teachers' current responsibilities. Of the 11 participating schools, a total of 360 teachers were eligible for the project; 121 (33.6%) teachers signed consent and participated in the project.

Measures

Measures for this study included self-report assessments of participants' demographic and teaching characteristics, teaching efficacy, stress, and burnout. In addition, participants responded to a series of four hypothetical vignettes of student aggression with measurements of proposed attributions, affective reactions, and interventions. All measures are included in Appendix A. Finally, demographic characteristics of participants' schools were collected from electronic reports published by the Virginia Department of Education.

Measures were divided in two parts. The first packet included self-reports of participants' demographic and teaching characteristics, teaching efficacy, stress, and burnout. The second packet included the hypothetical vignettes and measurements of proposed attributions, affective reactions, and interventions. This was completed at least one week following completion of the first packet. The format of measurement completion (i.e., one-week lag) was used to allow for less influence of participants' self-ratings on the first assessments (e.g., review of one's stress and burnout experiences) on ratings in the

second packet of assessments. In addition, three eight-item questionnaires were developed to include distractor items between each of the four vignettes. These questionnaires included items that assessed basic factual information about participants' classroom, school, and community.

Teacher Background

A teacher background questionnaire was developed by the experimenter to ascertain background demographic variables, including gender, ethnicity, grade taught by teacher, years of teaching experience, and nature of teacher training.

Teaching Efficacy

The Teacher's Sense of Efficacy Scale (TSES; Tschannen-Moran & Woolfork Hoy, 2001) is a 24-item measure of efficacy specific to one's role as a teacher. The items yield three subscales (i.e., efficacy in student engagement, efficacy in instructional practices, and efficacy in classroom management). All three subscales consist of eight items, with a range of scores from one to eight. Subscales are calculated by taking the mean score across the eight items. A normative study conducted by the authors of this measure revealed moderately high ratings of efficacy across subscales. Mean scores ranged from 7.3(1.1) for both student engagement and instructional practices to 6.7(1.1) for classroom management. In addition, a total mean score can be calculated from the 24 items. Internal consistency reliabilities for the subscales are high, with Cronbach's alphas ranging from 0.87 to 0.94. For the purposes of this study, only the efficacy in classroom management subscale was considered.

Teaching Stress

The Teacher Stress Inventory (TSI; Fimian, 1985) was administered to participants for purposes of evaluating both the presence of occupational stressors and participants' reactions to those stressors. The TSI consists of 49 items across 10 subscales that reflect five sources of stress (i.e., time management, work-related stressors, professional distress, discipline and motivation, professional investment) and five manifestations/reactions to those sources of stress (i.e., emotional, fatigue, cardiovascular, gastronomical, behavioral). Subscale scores are calculated by taking the mean score of items within each subscale. Possible mean scores range from one to five, with higher scores reflecting increased sources of stress

and/or manifestations of stress. Additionally, a total score is calculated by taking the mean score across all ten subscales. Normative studies conducted by the author of this measure found that both regular education (N=962) and special education (N=2,352) teachers' mean ratings were 2.6 (0.7) on the TSI total score. For purposes of this study, only the TSI total score was evaluated.

Fimian (1985; 1987; 1988) demonstrated acceptable psychometric properties for this measure. Specifically, convergent validity was found when the TSI was compared to ratings made independently by another person who knew the teacher well. Scores on the TSI were also related to measures of psychological, physiological, and organizational constructs associated with stress. Internal consistency reliability scores within subscales ranged from 0.75 to 0.88 for a combined teacher sample (special education and regular education). The total scale alpha reliability estimate was 0.93. Finally, the stability of the TSI using two-week test-retest reliability scores was highly acceptable, with correlations ranging from 0.81 to 0.99 for the scales.

Educator Burnout

The Maslach Burnout Inventory – Educators Survey (Maslach, Jackson, Leiter, 1996) was administered to participants to evaluate the severity and influence of educator burnout among participants. This measure consists of 22 statements that assess three aspects of burnout, namely, emotional exhaustion, depersonalization, and personal accomplishment. Emotional exhaustion is described as the tired feeling that develops as one's emotional resources are drained. Depersonalization is defined as the degree to which teachers display indifferent, cold, distant, or negative attitudes towards students through the use of generalizing, derogatory labels (e.g., "they are all animals") or physically distancing actions (e.g., placing one's self behind the desk). Low personal accomplishment is defined as the degree to which teachers no longer feel they are contributing to students' development. Items are scored on a seven-point scale (0=Never to 6=Every day). The emotional exhaustion subscale consists of nine items, with a possible range of scores between 0 and 54. The depersonalization subscale consists of five items and has a possible range of scores between 0 and 30. The personal accomplishment subscale is comprised of eight items, with a possible range of scores between 0 and 48. According to a normative study of

4,163 elementary and secondary teachers conducted by the authors of the measure, high burnout is indicated for scores at or above 27 on the emotional exhaustion subscale, at or above 14 on the depersonalization subscale, and at or below 35 on the personal accomplishment subscale.

Although some have suggested that burnout may be better represented by a universal scale, confirmatory factor analyses support the three subscales used in this measure with teachers (Belcastro, Gold, & Hays, 1983) as well as other professionals (Lee & Ashforth, 1993). Factor loadings range from 0.54 to 0.84 on the emotional exhaustion subscale, from 0.55 to 0.67 on the depersonalization subscale, and from 0.43 to 0.59 on the personal accomplishment subscale. This measure is shown to have moderate to high test-retest reliability, with subscale correlations ranging from 0.50 to 0.82 on time spans of three months to one year (Leiter & Durup, 1996; Lee & Ashforth, 1993; Jackson, Schwab, & Schuler, 1986). The discriminant validity of the MBI-ES has been established in a number of studies. This measure of burnout has been distinguished from measures of general job satisfaction (Lee & Ashforth, B.E., 1996), depression (Leiter & Durup, 1994), and occupational stress (Cox, Kuk, & Leiter, 1993).

Classroom Aggression Vignettes

Four written vignettes describing a child engaging in proactive aggression or reactive aggression in the classroom were developed by the experimenter for the current investigation. Descriptions of the aggression subtypes reflect items on the Teacher Rating Scale (TRS) developed by Brown et al. (1996). Each behavioral description was first pilot tested with a sample of 10 graduate-level clinicians. For each behavioral description, clinicians placed a circle around one of two aggression subtypes (i.e., "Reactive"; "Proactive") to indicate the type of behavior displayed. In addition, they noted how confident they were about the behavior type (1=not at all confident; 10=extremely confident), and the severity of the behavior (1=not a problem; 10=severe problem). The final vignettes were selected based on this pilot testing. The two best examples of reactive aggression and two best examples of proactive aggression, both with severity ratings between 6 and 8 by the graduate clinicians, were selected.

As part of each vignette, treatment information about the target child was experimentally manipulated. Prior to reading the behavioral description, participants read either that a) the child had

successfully completed social skills/anger control training, or b) no treatment had been completed. Each teacher read four vignettes in total. Each behavior type was represented in each of the two treatment conditions. In an effort to minimize order effects, two vignette sequences were developed. Participants were randomly assigned to receive one of the two sequences.

Following each vignette, participants completed a questionnaire measuring their attributions and reaction to the child's behavior. This questionnaire format combined items from measures developed by Johnston and Leung (2001) as well as Poulou and Norwich (2000) who evaluated parent and teacher attributional patterns, respectively. Questions about attributions were based on Johnston and Leung's work and questions about affective and behavioral reactions were adopted from Poulou and Norwich's questionnaire.

Participants were asked to rate the causal locus, controllability, stability, and intentionality of a hypothetical child's behavior on 10-point phrase completion (Hodge & Gillespie, 2003) scales. The phrase completion design is similar to that of a Likert scale, but instead incorporates the use of a numerical continuum without assigning category labels to each data point. For the purpose of data analysis, the intentionality scale was reverse coded in analyses so that lower scores reflected less intentionality (i.e., 1=not at all intentional; 10=definitely intentional). All other scales remained as written in the measure for the purpose of analyses. Participants also rated their likelihood of experiencing certain affective reactions and enacting various interventions in response to that behavior. Six possible affective reactions (i.e., stressed/anxious, helpless/depressed, hurt/offended, angry/resentful, sympathy/compassion, irritated) and six possible interventions (i.e., punishment, threats, support, refer for counseling, explanation of school rules, teacher education) were considered. Teachers were asked to rate the degree to which each listed response would apply to their own likely reaction to the child (1=very unlikely to 10=very likely). Affective reactions were considered individually for the initial analyses. For the tests of Weiner's model, the affective reaction of sympathy/compassion was used in the tests of mediation to reflect an empathetic emotional response and a composite of the angry/resentful and irritated reactions represented a negative/distress emotional response (Betancourt, Hardin, & Manzi, 1992).

Interventions were analyzed separately for all analyses given the qualitative differences in behavioral responses.

It is important to note that a number of formats have been suggested and tested for the measurement of attributions and the presentation of hypothetical vignettes. Recent findings suggest that similar results are obtained when vignettes are presented in written or video format (Johnston & Freeman, 1997). Johnston and Freeman (1997) also found similarities in attributions when measured in a forced-choice format and through open-ended questions.

Procedure

Of those schools that agreed to participate, either phone or in-person meetings were scheduled and held with each principal to describe the project and plan recruitment and project administration procedures. Teachers were first introduced to the project by the school principal during a faculty meeting, who briefly discussed the focus of the project based on the wording used in the introductory letter. A meeting was held at each participating school with teachers in grades 5 through 8 and the experimenter. At this meeting, the project was described in greater depth. This included a detailed review of study consent, instructions, and assessments.

Specifically, teachers were told that their participation would include signing one copy of the consent form (keeping a second copy for their records), completing a contact card for the purposes of reimbursement, and completing two packets of assessments. Teachers were instructed to wait at least one week between completing the first and second packet. Dates provided on the assessments suggested that participants complied with this instruction, with all waiting between 7 and 12 days between assessment packets. In addition, teachers' questions and concerns regarding the study were answered either in the group or individually. Interested teachers were provided a packet at the meeting. A number of packets were also left with the school principal for teachers who decided to participate at a later date. Following the completion of packets, participants mailed the project materials directly to the experimenter in a sealed, pre-stamped and addressed envelope. A total of 121 teachers returned signed consent and project materials. Following the receipt of study materials, teachers were mailed a ten-dollar gift certificate/card

to local businesses (i.e., Walmart; Target) as reimbursement for their participation in the study. In addition, interested teachers and school principals were provided a detailed synopsis of study findings and recommendations.

RESULTS

Participant Characteristics

Participants included 121 middle school (i.e., grades five through eight) teachers from 11 public elementary and middle schools in Southwestern Virginia. This sample consisted of 102 females (84.3%) and 19 males (15.7%), with a majority identified as Caucasian (i.e., 98.3% Caucasian; 1.7% African-American). Participants ranged from 23 to 61 years old (M age=41.53; SD=10.54).

Participants reported a range of training and teaching experiences. Most teachers (i.e., 64.5%) received a bachelor's degree; 33.9 and 1.7 percent received masters and doctorate degrees, respectively. Years of teaching experience ranges from 1 to 33 (M years=15.18; SD=10.37). Daily student loads (i.e., number of students taught each day) also varied considerably, ranging from 10 to 200 students (M=90.33; SD=36.12). A majority of participants reported teaching one grade (2.5% 5^{th} grade; 21.5% 6^{th} grade; 19.8% 7^{th} grade; 24.0% 8^{th} grade), although over one-third taught multiple grades (31.2%). Participants also reported a range of teaching experiences with special education students, and emotionally disabled (ED) students in particular. Over two-thirds (N=81; 66.9%) of teachers indicated that they taught special education students every year. Participants were less likely to have regular contact with ED students, with about one-third (N=37; 30.6%) of the sample teaching such students annually.

The relation between demographic variables and teachers responses across measures was examined, to determine whether certain factors needed to be controlled for in the testing of study hypotheses. With the exception of one demographic characteristic (i.e., gender), zero-order correlations revealed low, non-significant correlations (i.e., $r<0.20$) between demographic variables and all variables of interest. In the case of gender, correlations were moderately-low, but significant, with three dependent variables. This included sympathy/compassion ($r=0.25$; $p<0.01$), threats ($r=0.26$; $p<0.01$), and learning

more ($r=0.27$; $p<0.01$). As such, gender was statistically controlled for during analyses in which these items were considered as a dependent variable.

School Characteristics

Descriptive data was collected from phone and in-person meetings with school principals and from electronic reports (i.e., "School Report Cards") provided by the Virginia Department of Education (http://www.pen.k12.va.us/VDOE/src/) for each individual school. Of schools participating, eight (73%) of the 11 school principals were male and three (27%) were female. School accreditation status was also collected for the 2001-2002 and 2002-2003 academic years. During the former academic year, four schools were fully accredited, six were provisionally accredited, and one was provisionally accredited with a "needs improvement" status. This improved during the latter year, with eight schools receiving full accreditation, two receiving provisional accreditation, and one (the same school as during the prior year) having a "needs improvement" status. Accreditation is a state identification reflecting whether students were able to pass the critical academic areas on Standards of Learning testing.

Demographic and academic characteristics of participating and non-participating schools were compared to determine whether specific characteristics were associated with participation status and to consider the generalizability of the sample. Schools were compared by student enrollment, teacher-student ratio, principal gender, percent of students receiving free lunch (an indicator of SES), percent of students passing standards of learning (state-wide achievement) tests, and school safety. With one exception, no significant differences were found between participating and non-participating schools. Not surprisingly, significant differences were found in annual number of physical violence incidents during the 2000-2001 school year by participation status, with participating schools having reported a mean of 3.73 ($SD=3.82$) incidents as compared to a mean of 0.50 ($SD=0.93$) incidents reported by non-participating schools ($F=5.39$; $p=0.03$). Physical violence incidents were also elevated during the 2001-2002 school year among participating schools ($M=7.55$; $SD=13.85$) as compared to non-participating schools ($M=0.38$; $SD=0.52$), although results were not significant (i.e., $F=2.11$; $p=0.16$). Table 1 presents comparison information across participating schools, non-participating schools, as well as statewide

norms for demographic and academic characteristics. Thus, it is obvious that teachers in schools with more aggressive behavior problems agreed to participate.

Descriptive Results: Self-Report Measures

Teaching Efficacy. For the purposes of this study, only one subscale (i.e., efficacy in classroom management) of the TSES was evaluated. Mean response for this subscale was 6.52 (SD=0.99), with a range of scores from three to eight. Participants' responses are consistent with that of the normative sample. Internal consistency reliability estimates for items on the efficacy in classroom management subscale was high ($\alpha = .91$).

Teaching Stress. Only the total score on the TSI was used as part of the current study. Mean response for the TSI total score was 2.42 (0.60), with scores ranging from one to four. Participants' scores were highly similar to that of the normative sample. Internal consistency scores within subscales range from 0.79 to 0.91 for this study. The total scale alpha reliability estimate was 0.90. Again, participants' responses on this measure were consistent with that of normative samples.

Maslach Burnout Inventory. Mean responses and range of scores for each of the three subscales is presented in Table 2. As compared to normative data, participants scored within average range on the emotional exhaustion subscale. They fell in the low range of depersonalization as compared to the normative sample (i.e., scores under 8). However, participants were in the high average range of burnout on their personal accomplishment scores, with scores just above the cut-off of 35 for high burnout. Further, a two-tailed analysis indicated that the subscales were moderately correlated, with coefficients ranging from $r=-0.39$ to $r=0.61$. All correlations were statistically significant ($p<0.001$). Internal consistency reliability estimates for items on emotional exhaustion, depersonalization, and personal accomplishment subscales were moderately-high to high, with $\alpha = 0.91$, 0.75 and 0.85, respectively.

Additionally, given the conceptual overlap between stress and burnout suggested in the literature, the correlation between subscales of the MBI and TCI were explored. Specifically, the three MBI subscales were included with the TCI total score as well as the five stress manifestation subscales. Results demonstrate low to moderately high correlations across subscales, ranging from $r=0.12$ to $r=0.70$.

These findings are presented in Table 3.

General Linear Model Analyses

GLM repeated measures procedures were conducted to ascertain the degree to which teacher's proposed attributions, affective reactions, and interventions would differ as a function of whether the child presented in the hypothetical vignette had received treatment and the type of aggressive behavior displayed. A first set of models examined mean differences in attribution scores by treatment status and aggression subtype. In a second set of models, mean differences in likelihood of affective reactions were considered as a function of treatment status and aggression subtype. The third set of models evaluated suggested interventions as the dependent variable. Main effects variables were calculated by averaging item scores for the treatment/aggression pairings of interest (e.g., treatment = Mean (treatment/proactive, treatment/reactive)). Interaction effects were evaluated by examining mean differences in participants' proposed attribution, affect, and intervention scores across the four conditions. Four sets of dependent variables were generated from the evaluation of interaction effects, one set for each of the aggression subtype/treatment status conditions.

For every procedure, the assumptions associated with the GLM repeated measures procedure was first tested and degrees of freedom adjustments (using the Huynh-Feldt Epsilon correction factor) were made as appropriate to protect from inflations in Type I error (Keselman, Algina, & Kowalchuk, 2001). Specifically, as part of the univariate approach to repeated measures analysis, there are certain requirements: a) measurements should sample from a multivariate normal distribution, b) variance-covariance matrices among between-subjects samples are circular in form, c) homogeneity of covariance matrices, and d) independence. Mauchly's test of sphericity was used to evaluate the variance-covariance matrices of the dependent variable.

Attributions

GLM Repeated Measures procedures were conducted to ascertain the degree to which teacher's attribution ratings of child behavior would differ as a function of whether that child had received treatment and the type of aggressive behavior presented in the vignette. Overall trends in the results are

of note. As shown in Table 4, teachers generally rated both proactive and reactive aggression as a severe problem. Teachers also tended to attribute aggressive behavior more to the child than to the situation, and felt as though the child was more in control of his behavior. Teachers also reported elevated stability scores, suggesting that they generally believed that the aggression would continue to occur. Finally, teachers viewed *both* proactive and reactive aggression as similarly highly intentional in nature.

Significant differences in attribution scores by aggression, but not treatment, were found. Specifically, main effects by aggression were found for severity, locus, and stability attributions (Table 4). Teachers rated proactive aggression as significantly more severe and stable as compared to reactive aggression. Teachers also were more likely to attribute the source or locus of proactive aggression to the child as compared to reactive aggression. Additionally, interaction effects of the aggression and treatment conditions were found for attributions of stability and severity. Specifically, for children displaying proactive aggression and had received treatment for their behavior, teachers rated their behavior significantly more stable and severe than all other conditions (overall $F=12.50$, 13.15, respectively; overall model and all pairwise comparisons $p<0.01$). Although teachers rated intentionality and controllability highest in the proactive aggression/treatment condition, the difference between this and the other conditions was not statistically significant.

Affective Reactions.

As shown in Table 5, main effects on proposed affective reactions were found by aggression subtype but not treatment status. Specifically, teachers reported that they would be more likely to experience affective reactions to proactive aggression as compared to reactive aggression. The likelihood of negative affective reactions by teachers was significantly higher for proactive aggression as compared to reactive aggression. Surprisingly, this was also true for sympathetic reactions. With regard to the hypothesis of interaction effects, although some significant differences were found across the conditions, interaction effects did not distinguish the proactive/treatment condition from the other three conditions.

Proposed Interventions.

As shown in Table 6, main effects for proposed intervention by aggression, but not treatment status,

were found. Generally, teachers reported that they would more likely enact some type of intervention in response to proactive aggression as compared to reactive aggression. As expected, the likelihood of punitive interventions by teachers was significantly higher for proactive aggression as compared to reactive aggression. Specifically, this held true for the use of threats in response to aggression. The same pattern was also found for teachers' referrals to outside professionals, learning more about the problem, attempting educational techniques with the child, and engaging in supportive behavior towards the child. Proactive aggression was more likely to elicit all types of strategies for use with students. It was also expected that the main effects would be qualified by interaction effects of the aggression and treatment conditions. Although some significant differences were found across conditions, interaction effects did not distinguish the proactive/treatment condition from the other three conditions.

Impact of Teacher Characteristics

An additional set of analyses was conducted in order to consider whether variations in attributions, affective reactions, and proposed interventions by target child characteristics differed as a function of teachers' professional and psychosocial characteristics. Given the non-significant impact of the treatment condition, only the aggression condition was considered in this set of analyses.

In order to test the hypothesis that teacher characteristics had an impact on ratings of, and responses to, aggressive classroom behavior, mixed between-within ANOVAs were used. This allowed for a combined analysis of main effects related to teacher characteristics as well as interactive effects related to aggression subtype and teacher characteristics. As before, the assumptions associated with the GLM repeated measures procedure was first tested and degrees of freedom adjustments were made as appropriate to protect from inflations in Type I error (Keselman et al., 2001).

Prior to the analyses, median splits were conducted in order to transform continuous variables to dichotomous variables. With the exception of one variable (i.e., whether a teacher had received training to work with ED students), all characteristics were dichotomized in this manner. As mentioned previously, teacher training was already a dichotomous variable.

Training. Teachers were asked to indicate whether they had received specialized training to work

with ED students. Although no associations were found across attribution scales, main effects of training were found for affective reactions. Results are presented in Tables 7 and 8. Generally, teachers with training endorsed significantly less negative affect in response to the hypothetical vignettes as compared to those with no training. Specifically, scores on anger, stress, helplessness, irritation, and hurt/offended scales were all significantly lower for trained teachers as compared to untrained teachers. Results supported the presence of an interaction between ED training and aggression type when considering the impact of these characteristics on ratings of anger reactions. Specifically, classroom aggression elicited the most anger under conditions of proactive aggression for teachers with no ED training.

Main effects of teacher training were also found across proposed interventions. Results are presented in Tables 7 and 8. As compared to those without ED training, participants with training believed that they would engage in more active, positive intervention strategies within the classroom. Specifically, they were significantly more likely to try to learn more about the presented behavior problem, and be supportive with the child. Trained teachers were also less likely to refer the child to outside personnel for services. No interactive effects were found.

Teaching Efficacy. Teachers' sense of efficacy specific to classroom management was considered as a possible factor distinguishing teachers' responses to classroom aggressive behavior. Although no associations were found across attribution scales, main effects of efficacy were found for both proposed affective reactions and interventions. Results of these analyses are presented in Tables 9 and 10.

First, teachers with low efficacy endorsed significantly higher negative affective responses and lower positive affective responses to the classroom aggression presented in the vignettes, as compared to those with high efficacy. This was true across a number of items including anger, stress, helplessness, hurt/offended, and sympathy. Second, teachers with low efficacy were more likely to refer the child to outside personnel for services and less likely to use punishment in the classroom to address the aggressive behavior, as compared to those in the high efficacy group. An interaction effect was also found for proposed interventions. Specifically, teachers were most likely to refer students to outside resources

under the condition of low self-efficacy for managing classroom behavior and when the child was exhibiting proactive aggression.

Teacher Stress and Burnout. In reviewing the impact of stress and burnout, a number of main effects for these teacher characteristics were found across responses to aggression vignettes. However, the interaction between aggression subtype and teacher characteristic was not found for either measure. It is also noteworthy that both measures demonstrated similar properties in their impact on participant responses. This was most often observed when evaluating between-subjects effects on affective reactions. As such, results using the stress and burnout measures are discussed together in this section.

From the MBI and TCI, three subscales (i.e., TCI Total Score, MBI Emotional Exhaustion, MBI Depersonalization) measure the negative aspects of teacher stress and burnout, respectively, whereas the MBI Personal Achievement subscale reflects a positive or protective factor associated with teacher burnout. Higher scores on personal achievement reflect less burnout. All subscales had at least some impact on participants' attributions, affective reactions, and proposed interventions.

With regard to teacher attributions, significant main effects were found as a function of TCI Total Score and MBI Personal Achievement subscales. First, teachers in the high stress group (i.e., high TCI Total Score) rated aggression as more intentional as compared to those with low stress ($F=3.87$; $p=0.05$). Additionally, teachers reporting high personal achievement on the MBI also rated aggression as significantly more stable as compared to those with low personal achievement ($F=4.85$; $p=0.03$).

The three subscales measuring the negative aspects of teacher stress and burnout seemed to have similar patterns with regard to teacher's affective reactions, with main effects found across all three subscales. The stress and burnout subscales significantly differentiated teachers' self-reported anger, stress, helplessness, irritability, and hurt/offended response. ANOVA results of between-subjects effects are presented in Tables 11 and 12. Negative affective reactions were significantly more likely among teachers reporting high stress and/or burnout as compared to those with low ratings on these measures. The MBI Personal Achievement subscale also significantly differentiated teachers' affective reactions, with teachers who reported high personal achievement also endorsing significantly lower likelihood of

experiencing negative affective reactions (i.e., anger, stress, helplessness, irritability, and hurt/offended) and significantly higher ratings of sympathy. An illustration of affective reaction scores across teacher characteristics is presented in Figure 1.

Teacher stress and burnout status also distinguished scores across a number of proposed interventions. Teachers in the high stress group (i.e., TCI Total Score) were significantly more likely to report that they would use punishment ($F=3.73$; $p=0.05$) and referrals to outside counseling professionals ($F=5.35$; $p=0.02$) as interventions for aggressive classroom behavior as compared to those in the low stress group. Teachers reporting high depersonalization on the MBI were significantly less likely to report that they would try to educate themselves about how to address aggressive classroom behavior as compared to those with low depersonalization ($F=8.88$; $p=0.004$). Finally, personal achievement tended to relate to whether teachers would generally try to address the problem on their own as opposed to referring the child elsewhere for services. Interestingly, it did not distinguish those using positive versus negative disciplinary strategies. Specifically, teachers in the high personal achievement group reported significantly higher likelihood to use punishment ($F=4.08$; $p=0.05$), threats ($F=7.31$; $p=0.01$), and educational strategies to teach appropriate behavior ($F=3.74$; $p=0.05$) as compared to those with low personal achievement. They were considerably less likely to refer for outside services, however ($F=16.29$; $p<0.01$).

Evaluation of Weiner's Model.

It was hypothesized that a relation between responses to aggressive behavior, including thoughts, feelings, and behavior would be present among participants in this study. Specifically, it was expected that Weiner's model would be supported in that teachers' affective reactions would mediate the relation between their attributions and proposed interventions. Specifically, positive affective reactions were thought to mediate the relation between attributions and positive interventions whereas negative affective reactions would mediate the relation between attributions and use of negative or punitive interventions.

Preliminary correlational analysis was conducted to measure the zero-order association between variables of interest. Table 13 presents relations found among these variables. A number of findings are

of note. First, non-significant correlations between positive (i.e., sympathy) and negative affective reactions detailed in this study suggest that these reactions are not merely opposite ends of one dimension. Second, high correlations and the conceptual similarity between negative affective reactions of anger and irritation suggest the utility of forming a composite in the evaluation of Weiner's model. Preliminary analyses also support that these scores individually do not differ from each other in their relation to other variables of interest.

Although numerous significant correlations were found across attributions, affective reactions, and proposed interventions, tests of mediation require significant relations among all variables in the model. As such, only those groupings for which significant correlations were found among all attribution, affect, intervention pairings were considered. Across all mediation models, only the negative affective reaction composite (i.e., anger/irritation) could be considered as a mediator. As such, the study did not support the mediating role of sympathy in the relation between attributions and positive/helping intervention decisions. The only dependent variables that could be included in mediational analyses were supportive behavior and referrals for counseling. As such, the study did not support the mediating role of negative affect in the relation between attributions and punitive intervention decisions. Available independent variables included attributions of problem severity, control, and intentionality as they were significantly related to negative affect, supportive behavior, and referrals.

Results of the correlational analyses did not allow for testing of Weiner's model. The hypothesis that sympathy would mediate the relation between attributions and proposed use of positive, helpful interventions was not found. In the same fashion, negative affective reactions did not mediate the relation between attributions and proposed use of negative, punitive interventions. Despite lacking support for Weiner's model in the current study, five separate tests of mediation were conducted to explore relations among available related variables.

Hierarchical regression analyses were conducted, with the independent variable (i.e., attribution) added in the first step, and the mediator variable (i.e., negative affective reaction) added to the second step. Independent variables were first centered to reduce the impact of multicollinearity. In addition, as

proposed by Holmbeck (2002), post hoc probing of all significant mediational effects was conducted to determine the significance of the indirect effect (i.e., whether the drop in the IV to DV relationship, or direct effect, is significant upon inclusion of the mediator in the model). Analyses support the presence of a mediated relationship between certain attributions and proposed interventions. Table 14 presents results from the regression analyses. A mediated relation, with negative affective reaction as the mediator, held true for four different attribution–intervention pairings (i.e., severity–supportive behavior, control–supportive behavior, intentionality–supportive behavior, and intentionality–referrals for counseling).

First, the positive relation between attributions of problem severity and providing supportive behavior as an intervention was mediated by the amount of negative affect reported by participants. Although the beta weight remained significant upon introduction of the mediator in the second step, post hoc testing revealed that the change in beta from step one to step two was significant (as indicated by the indirect B in Table 14). As is shown in Table 14, the mediated model was significant, accounting for 25 percent of the variance in the dependent variable. Together, this suggests that teachers who rate aggressive behavior as more severe believe that they would be more likely to experience negative affective reactions to that behavior, and, in turn, provide supportive behavior to the aggressive student.

Second, negative affective reactions also partially mediated the relation between attributions of control and the amount of supportive behavior reported by participants. As is shown in Table 14, the negative relation between control and supportive behavior was non-significant upon the introduction of the mediator. The mediated model was significant, accounting for 46 percent of the variance in the dependent variable. Together, this suggests that teachers who rate aggressive behavior as more <u>within</u> the child's control believe that they would be more likely to experience negative affective reactions to that behavior, and, in turn, provide supportive behavior to the aggressive student.

Third, negative affective reactions also partially mediated the relation between attributions of intentionality and the amount of supportive behavior reported by participants. The negative relation between intentionality and supportive behavior was non-significant upon the introduction of the mediator (see Table 14). The mediated model was significant, accounting for 67 percent of the variance in the

dependent variable. In all, teachers who rate aggressive behavior as more intentional believe that they would be more likely to experience negative affective reactions to that behavior, and, in turn, provide supportive behavior to the aggressive student.

Fourth, the relation between attributions of intentionality and the likelihood of referral to outside counseling was also partially mediated by negative affective reactions. As is shown in Table 14, the negative relation between intentionality and counseling referrals was non-significant upon the introduction of the mediator. The mediated model was significant, accounting for 71 percent of the variance in the dependent variable. According to these results, teachers who rate aggressive behavior as more intentional believe that they would be more likely to experience negative affective reactions to that behavior, and, in turn, be more likely to refer the aggressive student for counseling with an outside professional. Possible explanations for the observed results will be detailed in the discussion section.

Test of Moderators

The hypothesis that certain teacher characteristics would moderate the relation between attributions, negative affective reactions, and punitive behavioral responses was tested with two sets of regression analyses. In all, six teacher characteristics were tested as possible moderators. This included ED training, efficacy in classroom management, teaching stress, and three indices of teacher burnout (i.e., emotional exhaustion, depersonalization, personal accomplishment). As before, median splits were used to dichotomize continuous moderators. Predictor variables were all centered prior to entry into the model.

In the first set of analyses, possible moderators of the relation between attributions and affective reactions were explored for those in which a mediated relation was found between attributions and proposed interventions. It was hypothesized that under conditions of low efficacy, high stress and burnout, and/or no ED training, the relation between attributions and negative affective reactions would be significant, whereas under conditions of high efficacy, low stress and burnout, and/or ED training, this relation would be less evident. Hierarchical regression analyses were conducted with the negative affective composite serving as the dependent variable. The attribution rating was entered in the first step, each moderator in the second step, and the interaction term in the third step. Results partially supported

the hypothesis that particular teacher characteristics moderate the relation between thoughts about student aggressive behavior and their affective reaction to that behavior.

First, it was found that ED training moderated the relation between attributions of intentionality and negative affective reactions (see Table 15). As suggested by Holmbeck (2002), post hoc probing of the moderated effect was conducted. For teachers who reported no ED training, increases in ratings of intentionality were significantly associated with likelihood of experiencing negative affect ($t=4.07$; $p<0.01$). The relation was no longer evident for teachers with ED training ($t=0.17$; $p=0.86$). Figure 2 presents a visual depiction of the moderated effect. Second, as shown in Table 15, a significant interaction was found when considering the effect of stress on the relation between attribution ratings of problem severity and likelihood of experiencing negative affective reactions. Under the condition of high stress, increased perception of problem severity was related to increased likelihood of experiencing negative affect ($t=3.84$; $p<0.01$). This relation was no longer significant under the condition of low stress ($t=-0.22$; $p=0.82$). Figure 3 presents a visual depiction of the moderated effect. Third, the burnout dimension of depersonalization was also found to moderate the relation between problem severity and negative affective reactions (see Table 15). Teachers reporting high burnout on this dimension displayed significant positive relations between ratings problem severity and proposed negative affective reactions ($t=3.35$; $p=0.001$). Relations were non-significant for those with low burnout ($t=-0.20$; $p=0.84$). Figure 4 presents a visual depiction of the moderated effect.

In the second set of analyses, possible moderators of the relation between attributions and proposed negative/punitive interventions (i.e., threats, punishment) were explored for those variables that a mediation effect was <u>not</u> found. Again, under the condition of high efficacy, low stress, low burnout, and/or ED training, the relation between attributions and negative behavioral responses was hypothesized to be less evident than it will be under the conditions of low efficacy, high stress, high burnout, and/or no ED training. Hierarchical regression analyses were conducted with the proposed negative/punitive interventions serving as the dependent variable. The attribution rating was entered in the first step, each moderator in the second step, and the interaction term in the third step. Results partially supported the

hypothesis that particular teacher characteristics moderate the relation between thoughts about student aggressive behavior and their proposed response to that behavior. Significant moderation effects were found in two sets of hierarchical regression analyses.

First, it was found that the TCI total stress score moderated the relation between attributions of intentionality and the use of threats to address aggressive behavior (see Table 16). As suggested by Holmbeck (2002), post hoc probing of the moderated effect was conducted. For teachers in the high stress group, increases in ratings of intentionality were significantly associated with increases in likelihood of using threats to address aggressive behavior ($t=2.37$; $p=0.02$). The relation was no longer evident for teachers in the low stress group ($t=1.41$; $p=0.16$). Figure 5 presents a visual depiction of the moderated effect. Second, it was found that training moderated the relation between attributions of stability and proposed use of punishment (see Table 16). Post hoc probing of the moderated effect revealed that, for untrained teachers, increases in ratings of stability were significantly associated with increases in likelihood of using punishment to address aggressive behavior ($t=1.98$; $p=0.05$). The relation was no longer evident for trained teachers ($t=1.26$; $p=0.21$). Figure 6 presents a visual depiction of the moderated effect.

DISCUSSION

The goal of the present study was to evaluate and expand upon previous research on attributions of and responses to aggressive behavior in the schools. Specific aims included a) the investigation of child and teacher characteristics that relate to teachers' responses to aggression and b) the testing and application of one theoretical model purported to explain differences in reactions to aggressive behavior. A series of five hypotheses were tested and partially supported by the data. First, it was hypothesized that teachers' attributions for aggression in the classroom would vary as a function of two child characteristics, namely aggression subtype and prior treatment participation. Similarly, it was hypothesized that teachers' proposed affective reactions and interventions would vary as a function of these child characteristics. Although the distinction between proactive and reactive aggression led to

numerous significant differences in teachers' cognitive, affective, and behavioral responses, information about prior treatment participation did not. Investigation of relevant teacher characteristics also demonstrated that certain professional (i.e., training) and psychosocial (i.e., efficacy, stress, burnout) features impact teachers' response to aggressive behavior in the classroom. However, only teachers' ratings of stress and burnout had an impact on their attributions for the aggression displayed.

In an effort to identify processes that may help to explain teachers' response to classroom aggression, a series of analyses were conducted to test the relation between teachers' proposed attributions, affective reactions, and interventions as well as consider whether certain teacher characteristics moderate this relation. Findings did not support the application of Weiner's theoretical model to teachers in the current study, but do suggest some important patterns, influences, and limitations present within this sample of teachers.

Child Characteristics

Research in person perception has demonstrated that social judgments are based on information derived from the immediate social situation as well as a wide range of influences that may or may not be relevant to that situation (Rogers, 1982). The current study identified a number of factors that impact teachers' judgments of classroom aggression. First, participants' overall pattern of attribution judgments across conditions was of note. The vignettes presented isolated events pertaining to a hypothetical child, providing no information about the chronicity or cross-situational nature of aggression, family or cultural factors, or about the target child's thoughts or feelings. In addition to rating the behaviors as highly severe, teachers attributed behavior presented in these vignettes more to characteristics of the child (i.e., child-focused locus). Further, they rated behavior as highly controllable and stable, and moderately high in intentionality. Clearly, factors outside of the information presented influence participants' judgments, as there was no information provided in vignettes to directly support some of the teachers' attributions. This is consistent with studies of person perception in the school setting (e.g., Fang, 1996; Guttman, 1982; Zimmerman, Khoury, Vega, Gil, & Warheit, 1995) and among parents (e.g., Jenson et al., 1998). The specific nature of teachers' attributions also point to the self-protective function of these judgments.

As is found in the academic achievement literature, teachers are more likely to attribute causes of students' school failure to factors related to the student and school success to factors related to their teaching (Georgiou et al., 2002).

Participants' attributions were affected by the nature of aggression displayed. Specifically, they perceived proactive aggression as significantly more severe and stable as compared to reactive aggression. Although children with proactive aggression alone are generally thought to have improved social functioning as compared to those with reactive aggression (Coie et al., 1991; Poulin & Boivin, 2000), teachers may view instrumental, goal-oriented aggression as more deviant and antisocial in nature as compared to the norms and expectations of the school setting. Of note, this study offered an isolated episode of aggression. It is possible that, without information about students' functioning in a larger context of day-to-day interactions, children with proactive aggression are viewed differently. Specifically, children with proactive aggression may be viewed as less problematic when observed in the context of more socially skilled interactions.

Additionally, the influence of treatment information provided further support for the influence of contextual factors. When provided with information that proactive youth had already completed treatment, participants viewed behavior as most severe and stable as compared to other conditions. Teachers likely recognized that treatment resistant proactive aggression would be even less likely to change or improve with their efforts.

Participants also were more likely to attribute the source or locus of proactive aggression to the child as compared to reactive aggression. This is interesting in that both forms of aggression can be theoretically linked to external factors. In the case of proactive aggression, one can identify outcome expectancies and goals related to the behavior. In the case of reactive aggression, a precipitating stimulus is described. Participants' judgments reflect a widely adopted distinction between forms of aggressive behavior. Specifically, the legal system distinguishes between aggression that has forethought (e.g., first-degree murder) and crimes of passion (e.g., voluntary manslaughter), considering individuals less personally responsible and offering less severe consequences for the latter offense (Dodge, 1991). It is

assumed that instrumental aggression involves more controlled decision-making and planning by the individual as compared to aggression that is more closely tied (often temporally and conceptually) to a precipitating event. In fact, teachers' sensitivity to environmental precipitants presented in vignettes of reactive aggression is also consistent with Heider's (1958) original supposition regarding the effect of temporal contiguity on attributions.

In line with recent attributional research drawing connections between individuals' thoughts, affect, and behavior (e.g., Christenson, Ysseldyke, Wang, & Algozzine, 1993; Jenson et al., 1998), it was anticipated that teachers' report of affective reactions and proposed interventions would show predictable patterns as a function of attributions. As expected, affective reactions varied by aggression subtype. Specifically, proactive aggression as compared to reactive aggression was more likely to elicited affective reactions (both sympathetic and negative) from participants. Along the same lines, participants reported a higher likelihood of implementing a variety of interventions in response to proactive aggression as compared to reactive aggression. Given that participants deemed proactive aggression as a relatively more severe and stable problem, the pattern of responses is not surprising. A review of zero-order correlations in Table 13 also supports the significant positive relations among these variables. However, these findings differ from those of previous studies of proactive and reactive aggression. Research on peer adjustment and classroom impairment more generally tend to demonstrate opposite trends, with reactive aggression found to elicit greater peer rejection (e.g., Crick & Dodge, 1996) and more strongly relate to teachers' ratings of impairment and severity of classroom behavior problems (e.g., Waschbusch, Willoughby, & Pelham, 1998). Again, these differences in findings may relate to the way in which aggressive behavior was depicted in this study (i.e., outside the context of a child's past and current functioning).

Interestingly, participants' responses were not affected by information about prior treatment participation. It was expected that teachers would demonstrate patterns similar to that of parents studied by Johnson and Leung (2001) who found that parents rated treated noncompliance behavior as more controllable and intentional, and reported stronger negative reactions, as compared to untreated behavior

problems. However, recent inquiry into the discrepancy between multiple informants of a child's behavior (e.g., Youngstrom, Findling, & Calabrese, 2003; Zimmerman et al., 1995) demonstrates the sometimes considerable variability between parents' and teachers' view of behavior frequency and severity. Guttman (1982) also demonstrated differences in the attributional patterns made by parents and teachers when responding to child misbehavior. In his study, teachers were more likely to attribute child misbehavior to internal, controllable aspects of the child whereas the child's parents were more balanced in the weight placed on child-focused and external factors. The variations in relationships and roles that others have with children may limit the applicability of research conducted with parents to that conducted with teachers.

School officials and the community at large generally offer guidelines for ways in which teachers are expected to respond to problematic behavior in the classroom (such as aggression). Although some differentiation is made by type of behavior exhibited (e.g., school violence versus classroom disruption), many school policies are not sensitive to classifications within behavior type. The current study demonstrated that such sensitivity is warranted, given the impact of certain child characteristics on teachers' response to student aggression. These findings also suggested that proactive aggression elicited stronger reactions by participants. However, there was little specificity to their reactions by aggression subtype. Given that certain specific interventions are considered more appropriate to address one behavior type over another (Vitiello & Stoff, 1997), specific policies regarding school assessment and response to reactive versus proactive aggression may prove effective.

Teacher Characteristics

Some have argued that characteristics of the perceiver, in addition to the target, impact the outcome of person perception processes. Numerous researchers have considered a wide range of specific demographic, psychosocial, and professional characteristics that may relate to individuals' perception of others' behavior. The current study focused on the investigation of both psychosocial functioning and professional issues specific to the academic setting as possible influences on teachers' response to aggressive behavior problems.

First, teachers' stress and burnout were considered. Despite high correlations between stress and burnout scales, and considerable overlap in their relations with other measures, this study supported existing literature suggesting that stress and burnout uniquely contribute to the understanding of teachers' reactions to child behavior problems (Burke & Greenglass, 1995; Capel, 1987). Consistent with the stress literature (e.g., Bibou-Nakou et al., 1999), the current study demonstrated that high stress and burnout are both conditions that relate to a person's thoughts, affect, and behavior. In fact, the impact of both stress and burnout was remarkably similar across measures of teachers' affective reactions. However, patterns responses as a function of the three burnout indices and the overall measure of stress did not overlap completely. For instance, stress and only one burnout scale (i.e., personal accomplishment) significantly differentiated participants' attributions of the behavior presented in vignettes. Specifically, teachers reporting high stress rated aggression as significantly more intentional as compared to those in the low stress group. Participants with high personal accomplishment rated behavior as significantly more stable as compared to those with low personal accomplishment. One would expect that the burnout scales would affect attributions similarly if this characteristic were only quantitatively (not qualitatively) different and fell at the extremes of the same dimension as stress.

Similarly, although teacher stress and burnout status both distinguished scores across a number of proposed interventions in the expected direction, patterns of responses varied across these scales. For instance, teacher stress related to differences in the use of punitive interventions. Burnout indices better differentiated teachers' use of active versus passive interventions, with higher burnout associated with less active and more passive approaches. However, these indices did not differentiate teachers' use of supportive versus punitive strategies. As such, an understanding of unique characteristics associated with stress and burnout add to our prediction of teachers' responses to classroom behavior problems. This study seems to also support the utility of conceptualizing teacher burnout as a multifaceted characteristic.

It is also important to consider the way in which these concepts were operationalized in this and other studies. Measures used in the current study assessed slightly different elements. The TCI operationalized stress as both one's exposure to sources of stress as well as the degree to which one is

experiencing negative reactions. Alternatively, the MBI only captures teacher reactions (not sources of those reactions). Further study of these concepts is required to determine relations among stress and burnout.

Teachers' response to aggression is also impacted by the degree to which they feel comfortable or confident handling such behavior. This comfort can arise from psychosocial factors, such as high efficacy for addressing classroom management needs, as well as professional factors like prior training in classroom behavior management (Elliott et al., 1984; Kandakai & King, 2002). In the current study, both training and teacher efficacy were conceptualized as conditions that would impact responses to childhood aggression. Findings showed that both factors influenced teachers' affective reactions and intervention suggestions, but not their attributions. This is consistent with the work of Cunningham and Sugawara (1988) who evaluated causal attribution patterns and suggested disciplinary strategies for pre-service teachers. Professional factors such as training related to differences in perceived costs associated with classroom behavior problems but not to attributional judgments of the behavior itself.

Both efficacy and training were negatively related to the experience of negative affect in response to vignettes. As Cunningham and Sugawara (1988) demonstrated, teachers with no specialized training were more likely to endorse higher costs associated with behavior problems than were more advanced teachers. Similarly, Saklofske and colleagues (1988) showed that self-efficacy is also inversely related to teachers' experience of negative reactions (e.g., emotional exhaustion) towards others. Teacher efficacy and training were also positively related to the likelihood that teachers would propose positive, active interventions in response to classroom aggression. This is consistent with previous studies of both characteristics (Hughes et al., 1993; Kandakai & King, 2002; Schwartz, Wolfe, & Cassar, 1997; Soodak & Podell, 1997).

In most cases, the impact of various teacher and student characteristics is considered in isolation. An alternative way of conceptualizing the role of child and teacher influences in the perception and response to classroom aggression is supported by the work of Pithers and Soden (1999) and Greene Beszterczey, Katzenstein, Park, and Goring (2002). These authors examined the *fit* between teachers and

students in the prediction of teachers' response to classroom behavior problems. The goodness-of-fit perspective (Thomas & Chess, 1980) suggests that one's ability to function in a certain environment is related to the degree to which one can meet or exceed the demands of that environment. This model may help to explain patterns observed among teachers in the current study. As Guttman (1982) noted, mutual agreement about causes of behavior (i.e., congruence in attributions) is likely related to the quality of interactions between persons involved (e.g., child and observer). However, it is widely recognized that aggressive youth are more likely to attribute causes of their own behavior to external factors. This lacking congruence between attributions of teachers and aggressive youth may serve to fuel the stress and conflict experienced between both parties. This, in turn, may negatively affect future expectations about that child's behavior and the interventions selected to address aggressive behavior. In addition, this cycle is likely affected by a host of teacher characteristics that may also impact, and be impacted by, the classroom environment. Clearly, future work evaluating the applicability of this model in explaining trends found in the current study is necessary.

Applicability and Limitations of Weiner's Model

A host of studies during the past few decades have demonstrated relations between teachers' perception of their students and the nature of interactions that take place in the classroom (e.g., Brophy & Good, 1974; Clark & Artiles, 2000; Georgiou et al., 2002; Mavropoulou & Padeliadu, 2002). Unfortunately, with few exceptions, most studies have focused on academic achievement and motivation rather than classroom management and non-academic deportment issues per se. Across studies, attributional theories have only been partially supported (e.g., Christenson et al., 1993). As Rogers (1982) notes, there remains a need to determine whether models of attribution theory can be applied to other real world settings.

The current study did not show support for the application of Weiner's attributional model to the classroom management of aggression. Patterns of associations across the three response patterns were inconsistent. In addition, particularly low correlations were found between attributions and both affective reactions and proposed interventions. These findings limited the ability to conduct tests of mediation

across items of interest. However, an analysis of significant relations did support the mediating role of negative affect in certain instances.

In a school setting, teachers are expected to follow formal rules and guidelines regarding their response to childhood aggression. This study suggests that certain attributions were more likely to elicit negative affect in response to aggressive behavior. However, in the classroom, the model proposed by Weiner may be restricted by the professional expectations and norms associated with school regulations and state laws. Indeed, participants' attributions and affective reactions seemed to prompt the use of positive/supportive intervention strategies, rather than punitive strategies (as predicted by Weiner's attributional model).

It seems to be the case that teachers' thought and affective patterns may serve to motivate teachers to use positive, supportive strategies to address the behavior problem at hand. This process may have immediate benefits for the child displaying aggression, given the nature of interventions suggested by participants. However, the experience of elevated negative affect when perceiving behavior problems as severe, controllable, and/or intentional can take a remarkable toll on the teacher's own personal and professional functioning. As a consequence, factors such as stress and burnout may negatively impact teachers' later intervention decisions. In other words, teacher stress reactions may be long-term by-products of the perceptual process taking place when students display aggressive behavior in their classroom, as well as precipitants of further classroom conflict.

The impact of teacher characteristics on the attributional process modeled by Weiner was further evaluated and supported with the introduction of three moderators. As expected, certain professional and psychosocial characteristics seemed to moderate the relation between teachers' attributions and negative affective reactions. Teachers with no training in working with ED students were more likely to report negative affect when they viewed aggressive behavior as intentional, as compared to those with training. This is consistent with earlier studies showing that pre-service teachers endorsed higher costs of problem behavior in their classroom (Cunningham & Sugawara, 1988). Further, Weiner (2001) acknowledges that the attribution of intentionality is also associated with a social and moral value judgment, which often

elicits feelings of anger and a desire to hold someone personally responsible for their behavior. It seems probable that teachers who lack information about aggressive behavior problems and their treatment will feel greater demands, as students are exhibiting behavior that they likely perceive as highly deviant from their expectations, understanding, and/or comfort-level.

Analysis of moderated relations between attributions and interventions also demonstrated that training impacts the use of punitive strategies to address aggressive behavior. Specifically, significant positive relations were found between ratings of stability and proposed use of punishment among untrained teachers only. According to the attributional literature, attribution of stability regarding a target person's behavior is a key determinant in one's expectancy of success or failure in responding to that person (Weiner, 1985). In schools, the use of punishment often involves little effort or exchange on the part of the teacher, given the nature of punitive discipline methods. Indeed, Cunningham & Sugawara (1989) posit that punitive interventions serve to create distance or limit interaction between teachers and a problem child. Without training, a teacher may lack data about him/herself, such as knowledge of successful techniques and/or confidence in one's skills, which could offset the effects of stability attributions. Furthermore, it is widely recognized that the legal system makes intervention decisions based on the stability of behavior. Interventions are viewed as less likely to work for stable behaviors or characteristics of a person (e.g., psychopathy) and, as a result, parole from jail is less likely for certain individuals deemed as having stable behavior problems (Carroll, 1986).

Psychosocial factors also served to moderate the relation between variables of interest. First, both high stress and burnout moderated the relation between teachers' attributions of problem severity and negative affective reactions. Specifically, teachers experiencing high stress and depersonalization were more likely to report negative affective reactions in response to ratings of problem severity. It is not surprising that teachers who endorse generally high levels of stress and burnout across situations are more likely to react negatively to specific instances of problem behavior in their classroom. It is also important to remember that the negative affect composite includes anger and irritation. Depending on the manner in which teachers' anger and irritation is exhibited, this specific type of reaction may serve to maintain or

exacerbate the cycle of negativity between teachers and aggressive students (Bibou-Nakou et al., 1999; Capel, 1992; Shores, Gunter, & Jack, 1993). This, in turn, may indirectly impact teachers' selection of interventions and maintenance of stress.

In fact, the current study supported the relation among teacher stress and proposed responses to classroom aggression. Specifically, findings demonstrated the moderating effect of stress on the relation between intentionality attributions and use of threats to address aggressive classroom behavior. For teachers in the high stress group (but not the low stress group), increases in ratings of intentionality were significantly positively associated with increases in likelihood of using threats.

Clinical and Educational Implications

An understanding of characteristics that may impact teachers' response to aggressive behavior is valuable in that it may point to targets of intervention above and beyond the focus on the child. This is particularly important, given the well-established limitations associated with child and family-focused therapy for children with conduct problems and aggression (e.g., Kazdin, 1994; Kazdin, 2001; Lochman & Lenhart, 1993).

It is widely recognized that teachers face the moment-to-moment responsibility of explaining students' past behavior and predicting students' future actions (Weiner, 1985). During the past few decades, researchers have gained interest in understanding the process underlying teachers' perceptions and responses to student behavior. In this, they argued for limitations in teachers' objectivity due to the functional nature of biased judgments and specifically identified attributions as self-protecting (Burke & Greenglass, 1995). For instance, a teacher may be more likely to attribute the locus of academic failure to the child in order to protect one's self-views as a competent teacher. To some degree, the current study demonstrates that teacher perceptions of *behavioral* functioning in school overlaps with patterns observed in studies of *academic* functioning.

As Weiner (2001) notes, judgments about a person's behavior is more commonly done when that person's behavior does not fit with the rules or expectations of the environment. In a school setting, this may include exceptional academic performance, disciplinary infractions, and/or abnormal psychosocial

functioning. Furthermore, judgment about a person's behavior is thought to impact the way in which one responds to that behavior. Unlike other settings in which judgments are made, as part of their professional responsibilities teachers are often expected to intervene and ameliorate student problem behavior. This has important implications for both students and teachers. First, a range of personal and professional consequences for teachers who interact with, and address the needs of, problem students has been well documented (e.g., Burke & Greenglass, 1995; Coie et al., 1991; Greene et al., 2002). Second, that teachers' functioning and student-teacher interactions have notable impact on student academic and social functioning (Dornbusch, Erickson, Laird, & Wong, 2001; Pianta, 1994; Schwartz, Wolfe, & Cassar, 1997).

The current study pointed to possible factors and processes that may be involved in the cycle of teacher and student interactions. For instance, teachers' responses seemed to vary as a function of aggression subtype. Teachers were more likely enact some kind of intervention in response to proactive aggression as compared to reactive aggression. This has important implications for the development of school-based programs to address aggression. First, it is clear that both forms of aggression are problematic and warrant intervention. Teachers' ability to distinguish different forms of aggression is only important inasmuch as they appreciate the similar consequences and need for services associated with both forms. This is particularly important, given that many youth display a combination of both proactive and reactive aggression. Second, research suggests that certain forms of intervention may be more successful than others for particular types of behavior problems. The time and effort required to initiate multiple forms of intervention for proactive aggression, for instance, may be inefficient both in terms of time, financial cost, and emotional cost to the teacher.

Of note, following the line of reasoning offered in attributional models, it is suggested that punitive behavioral responses follow negative affective reactions. However, in the school setting, punitive approaches often serves as the primary traditional mode of intervention. This has important implications for the study of teacher responses to problem behavior and in the application of non-educational models to the educational setting. Traditional approaches to managing problem behavior have not been

responsive to the behavioral and learning characteristics of students with chronic behavior problems (Colvin & Kameenui, 1993). Despite evidence that effective school-based interventions recognize and reward appropriate behavior to promote a positive school climate (Colvin & Kameenui, 1993; Mayer, 1993), many school or classroom management procedures continue to be reactive, punitive, or control oriented (Colvin et al., 1993; Furlong et al., 2000; Reitz, 1994). Clearly, further integration of research findings into school policy and practice is needed.

LIMITATIONS

Analytic Procedures

The statistical procedures used in the current study are well supported in their use across research of attributional models conducted elsewhere. However, it is important to note that there are many ways to consider the relations among the variables studied in the present investigation. For instance, an alternative set of analyses could have provided a more sophisticated look at the interrelationships between proposed attributions, affective reactions, and interventions in the evaluation of Weiner's model. Namely, structural equation modeling is a technique based on multiple regression and factor analytic techniques that evaluates the fit of each independent variable, as well as the overall model, to the data. Structural equation modeling is an appropriate technique when testing a theoretical model purported to explain relations among variables. It overcomes some of the limitations associated with multiple regression analyses, such as the effects of multicollinearity on regression coefficients when considering multiple predictors (Pedhazur & Schmelkin, 1991). It is important to note, however, that tolerances across all collinearity diagnostics ranged from 0.467 to 0.971 (tolerances of less than 0.1 are considered problematic).

In addition, there is some debate as to the best means of conceptualizing responses on Likert scales (Ferrando, 1999; Hodge & Gillespie, 2003). In the current study, data points on the Likert scales were treated as interval in nature, with data points considered as quantitatively different along one dimension and summed to create an index score. Alternatively, points on Likert scales are theoretically

conceptualized as ordinal or categorical variables. Information conveyed by ordinal variables, however, is limited. Ordinal values only depict rank, failing to allow one to calculate the degree of separation between values. The different scales warrant alternative analytic considerations and procedures.

Specifically, the analysis of continuous variables implies that the probability of a dependent variable is a linear function of the predictor variables. This also assumes that the outcome can theoretically be any value. However, in the case of Likert scales, responses are bound by a finite range of possible values. Additionally, categorical outcomes do not usually follow a linear pattern, which is an assumption made when conducting linear regression analyses. As a result, although many statistical procedures can withstand the violation of assumptions associated with analysis of continuous variables, the limitations in information provided by Likert scales can reduce the ability to detect interaction effects between variables of interest (Russell & Bobko, 1992). It is also the case that certain analyses are not possible with ordinal values as compared to continuous values (e.g., correlations).

It is important to note that this limitation only held for the first packet of questionnaires. Alternatively, the phrase completion (Hodge & Gillespie, 2003) design was used for measurement of teachers' attributions, affect, and interventions. This incorporates the use of a numerical continuum without assigning category labels to each data point. The phrase completion design is thought to offer improvements over traditional Likert scales, by more closely approximating an interval –level assessment of responses (Hodge & Gillespie, 2003).

Measurement

Vignettes measure. A number of possible limitations can be identified with regard to the measurement of teachers' proposed attributions, affect, and interventions used in the current study. First, although widely used in other studies of attributional patterns among adults and children, the constructs of interest were operationalized by single scales to represent participants' characteristics. The use of a single indicator to represent a construct is problematic in that it does not allow the investigator to consider various sources of variability due to such factors as measurement method, systematic error, and/or random error (Pedhazur & Schmelkin, 1991). As Pedhazer & Schmelkin (1991) also note, this may lead

to an underidentified model, which implies that the information available is not sufficient to estimate parameters of interest.

Additionally, many prompts across the Vignette scales may have been open to different interpretations by the investigator and participants. As a result, there may have been discrepancies between participants' conceptualization of responses and the investigator's intended meaning. Although less efficient, Poulou and Norwich (2000) used an alternative mode of assessment to address this issue. These authors asked teachers to respond to numerous specific behavioral questions that were later averaged to form composite scores. This approach allows for fewer threats to construct validity, and as a result, greater confidence that the method of assessment accurately operationalizes variables of interest.

Further, the vignettes used for the current study reflect characteristics of proactive and reactive aggression that were systematically modified from questionnaire form to a narrative depiction. Although the final vignettes were based on items in empirically validated teacher-report questionnaires and results of pilot testing with masters-level clinicians to ensure the validity and reliability of aggression descriptions, the measure was not piloted with teachers prior to their use in the current study. In addition, the study lacked a manipulation check to confirm the effectiveness and distinction of study conditions. Therefore, it is unclear whether the manipulation of aggression and treatment information had its intended effects.

Finally, participants were asked to report their likelihood of experiencing affective reactions and using a variety of interventions in response to vignettes. This study, however, did not assess the intensity of such reactions. It is possible that *elevations* in affective reactions, rather than the *likelihood* of that reaction, better relates to teachers' psychosocial characteristics. This information may also better predict whether teachers would enact a particular intervention. This may have also limited the applicability of study findings with that of other authors (e.g., Johnston & Leung, 2001) who measured the intensity (not the likelihood) of affective reactions.

Assessment of proposed interventions. A number of limitations can be identified with regard to the assessment of teachers' proposed interventions. First, it is possible that teachers' report of their behavior

was subject to impression management effects, particularly given that the study was conducted in the workplace with the endorsement of building principals. This may have decreased the strength of associations between proposed interventions and other teacher responses evaluated. In turn, this effect may have also impacted the applicability of Weiner's model to the current sample. Specifically, regardless of their thoughts and feelings regarding an event, teachers may report increased likelihood to engage in positive interventions and decreased likelihood to enact negative/punitive interventions.

Second, it is likely that teachers' response to intervention questions was also related to the limitations set forth in the context of their school. As disciplinary guidelines are determined statewide, this was not formally assessed as part of the study. However, it is possible that schools do not uniformly enforce all state regulations. Teachers' interventions may reflect formal rules detailed by the school as well as less formalized expectations offered by the goals or culture of the school. For instance, in many states it remains legal to use corporal punishment as an intervention for behavior problems in schools. However, schools may choose to remove that option from their policy and procedures. These differences may also affect the generalizability of studies of this sort to other school districts and states, where expectations and norms differ considerably. It will be helpful to gather more detailed policy information from individual schools in future studies of this kind.

Third, teachers' intervention decisions may be impacted by their own individual ideology and culture. In line with previous studies, the author of the current study made assumptions about what constituted supportive and punitive interventions. In addition, punitive interventions were viewed as being negative in nature and supportive interventions as being positive. This study would have benefited from assessing the meaning and acceptability of interventions from the teachers' standpoint. Stronger, more consistent, relations among variables may have emerged had these factors been controlled for in the analyses. Similarly, it would have been helpful to measure, and control for, teachers' perception of the value (likelihood of success) of each intervention, both in general and specific to aggressive youth. Other factors such as ease of implementation, time allowances, as well as teacher training and experience for specific proposed interventions might have also impacted the nature of findings. Recent studies confirm

the importance of such factors on teachers' discipline and intervention decisions (e.g., Elliott et al., 1984).

Measurement of teacher characteristics. The current study was also limited by the manner in which teacher psychosocial characteristics were assessed and operationalized. First, it was assumed that teacher stress, burnout, and self-efficacy were stable characteristics of participants, and were not influenced by hypothetical vignettes of classroom aggression. Variations in these characteristics as a function of the vignettes were not formally assessed. However, it is possible that these vignettes could elicit certain components of psychosocial functioning (e.g., physiological arousal) that comprise overall scores. As such, the *mediating* role (rather than *moderating* role) of stress, burnout, and efficacy may have proved significant in the prediction of affective reactions and proposed interventions.

Second, this study did not identify sources of burnout as part of its measurement. This would have been helpful in the attempt to compare the concepts of burnout and stress. It would also aid in the distinction of specific causal factors associated with the three different burnout dimensions. For instance, some temporary sources of stress and burnout are specific to the latter part of the school year (e.g., state-wide standards of learning testing) or to a personal event in one's life (e.g., illness of a family member). The timing of the study, for instance, (i.e., third and fourth quarters of the school year) may have elevated teachers' report of these characteristics.

Finally, there is some argument in recent literature regarding the conceptualization and measurement of efficacy. The current study considered only a specific form of efficacy as moderator in the current analyses. A generalized form of efficacy may have better fit the prediction model, as it would have accounted for a host of personal and professional sources of efficacy. It is possible that efficacy related to other aspects of a teacher's life and responsibilities would also impact their response to classroom incidents.

Participants

In the current study, participants included a primarily female sample of public school teachers from a small region of Southwestern Virginia. Specifically, 33.6 percent of teachers from participating schools volunteered to participate in the study and received compensation for their participation. Although the

norms of this sample compared to normative studies of measures, this specified sample of participants could limit the generalizability of study results. The study was presented to teachers as an effort to gain understanding of teaching strategies and qualities that are/are not supporting effective classroom management. It was expected that teachers would participate in the study for a variety of reasons (e.g., compensation, ability to voice concerns, sharing effective skills, and/or desire to support research efforts), which would allow for a wide range of teacher qualities. However, it is possible that teachers at the extremes of certain qualities were not represented in the study. For instance, those who were too overloaded with academic responsibilities may not have felt they could meet the time commitment required of them.

Further, participants' level of experience in dealing with aggressive behavior was not considered as a possible influence on their pattern of responses. This could be considered a limitation of the study, as teacher experience could account for some of the variance in the prediction of affective reactions and intervention choices. Teachers' exposure to students with emotional disabilities was assessed on a six-point Likert scale ranging from "Never" to "Every Year", but this special education label reflects the range of anxiety, mood, developmental, and externalizing disorders and is not specific to aggressive behavior per se. This will be an important characteristic to consider for future study.

FUTURE DIRECTIONS

The current study served as an initial investigation of factors that may inform educational and clinical research efforts to develop interventions for school-based aggression. This is the author's first step in what she anticipates to be many to apply what has been gleaned from clinical psychological research to a highly specified context, such as the school setting. Results of the current study confirm the importance of this line of research as well as point to a number of future directions.

Expanding the Assessment Protocol

First, an expansion of the study to incorporate measures of additional teacher characteristics and contextual influences, as suggested in the limitations section, would further our understanding of factors

that impact teachers' responses to classroom aggression. For instance, the current study asked teachers to imagine (and report) how they would respond to hypothetical incidences of classroom aggression. It would also be useful to consider teachers' actual responses to aggressive behavior, through the use of retrospective self-report measures, classroom observations, and/or school documentation of disciplinary infractions. This may circumvent the potential influence of impression management effects and help researchers study patterns of aggression exhibited in non-clinical settings.

Additionally, the current study drew connections between a teacher's affective reaction and his/her likelihood of selecting particular interventions. Regardless of the intervention selected, it is also likely that a teacher's affective reaction influences the way in which interventions are carried out. For instance, a teacher who is feeling angry may exhibit a more harsh tone of voice and body language during intervention delivery. It will be important to design measures sensitive to the *process* of intervention delivery, not simply the *content* of the intervention.

It will also be helpful to compare responses of teachers from other school districts, school types (e.g., private versus public; middle school versus high school), and localities (e.g., rural versus urban) to determine whether approaches for teachers also vary by these contextual influences. For instance, it is expected that elementary teachers may respond to students differently, given variations in their training, relations with students, and exposure to aggressive behavior as compared to middle school teachers (Borg & Falzon, 1990). Similarly, teachers who work in schools that promote the use of corporal or restrictive punishment may differ in their support of punitive measures as compared to those who work in a school that encourages referrals to mental health support personnel.

Further Evaluation of Weiner's Attribution Model

Given the unexpected patterns found among elements of Weiner's model in the current study, it may be beneficial to test variations of the model in future studies of this kind. For instance, it is possible that teachers' affective reaction does not add to the prediction of their intervention choice, particularly given the limitations associated with school discipline for aggressive students. Rather, the arousal of affect among teachers may, instead, influence the manner in which an intervention is delivered. It may

also be the case that teachers' cognitive patterns alone elicit particular intervention choices. Clearly, further examination of the role and impact of elements within Weiner's model is necessary to determine its applicability to the understanding of aggression in the school system.

It will be also important to further evaluate the applicability of Weiner's model in the school setting, both in the context of classroom aggression as well as when focusing on teachers' response to other classroom problems warranting intervention (e.g., withdrawal, overactivity, learning problems). It has been shown that teachers' attributions of, and reactions to, classroom problems differ as a function of problem type (Chang, 2003). However, it is not clear whether the attributional process similarly accounts for teachers' responses to the array of academic and non-academic problems exhibited by school-aged children. Furthermore, given the co-occurrence of behavioral and learning problems, it is important to understand the possible overlap or limitations of certain theoretical models in designing interventions for youth with complex presenting problems. As an example, if teachers display similar attribution patterns in response to both aggression and academic failure than they may respond to training programs based on the same set of principles derived from Weiner's model.

Not only can attribution models inform research focused on teachers' classroom practices, but it can also provide important insight into the *consequences* of teachers' behavior. Ideas set forth by Weiner and his predecessors have been applied to the study of children across both normative and clinical contexts. In the classroom setting, Weiner's model can also be expanded to identify the child effects of teachers' negative affective expressions and intervention selection. This is particularly relevant in the study of aggressive youth, given the well-established social cognitive deficiencies and attributional biases found among this population (e.g., Hudley & Friday, 1996; Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002).

Intervention Development

Results of the current study also help to elucidate future directions in intervention research for use in the school setting. Generally, teachers that participated in the study reported a need to receive information and support related to classroom management issues. The study also demonstrated the

impact of teachers' psychosocial and occupational characteristics on their response to classroom aggression. Other areas of literature support the use of occupational and psychosocial interventions to address these characteristics among employees in a variety of professions (e.g., Cunningham, Woodward, & Shannon, 2002; Maslach, Schaufeli, & Leiter, 2001; van der Klink, Blonk, & Schene, 2001). In the clinical literature, the value of parent-based interventions for child behavior problems is also well documented (Brestan & Eyberg, 1998; Kazdin, 1997; McMahon, 1999). As such, it is likely that teacher-focused interventions will serve to improve many aspects of teaching, including occupational satisfaction, student-teacher interactions, and the overall classroom environment.

Further, as an adjunct to child-focused interventions for aggressive behavior, teacher-focused training programs may provide further support for the goals and lessons established for aggressive students in particular. For instance, with training teachers may be better equipped to help students minimize the emergence of classroom aggression, counter negative personal effects of classroom conflict, and better modulate their own responses to aggressive youth. Indeed, research has demonstrated the utility of direct training in skills related to classroom management, including behavioral assessment and intervention (Sawka, McCurdy, & Mannella, 2002). Similarly, teachers experiencing fewer psychosocial difficulties (e.g., stress) may be able to take a more objective perspective when perceiving the causes of aggression and identify constructive alternatives to negative affective and behavioral responses. There remains a need to further examine and compare training components that may prove useful to teachers.

Along the same lines, it will be important to consider the most effective mode of training and support for teachers. This is particularly important, given teachers' identified need and desire for further preparation in classroom management as well as the increased presence of uncertified teachers in public schools (Merrett, 1993). Prior work in school-based intervention and teacher training informs this line of research. Recent research (Sawka et al., 2002; Shapiro, Miller, Sawka, Gardill, & Handler, 1999) suggests that in-service training is a necessary, but not sufficient, component in helping teachers deliver effective classroom management. In these studies, teachers with intensive in-service training alone were significantly less likely to implement training elements in their home school as compared to those who

received in-service training plus on-site consultation during the school year. Lochman et al. (1989) also proposed the need for a combined training/consultation program. These authors studied whether inclusion of a teacher consultation program (without prior training) improved the effectiveness and generalization of a school-based anger control treatment for aggressive youths. Although consultation enhanced teachers' receptivity to the anger control treatment and increased their referral rates, it did not affect treatment outcomes.

Together, research recognizes the importance of looking beyond child-focused interventions to address aggressive behavior in the classroom. These studies also suggest the need to further investigate and compare different methods of teacher training and support focused on classroom management.

SUMMARY

Despite considerable advances in the development and implementation of school-based interventions, aggressive behavior in schools remains a significant problem for both educators and the community as a whole. The present study was designed to examine possible contextual influences on the course and treatment of aggression in schools, in an effort to inform future intervention development. Specifically, the aim of the present study was to examine possible influences on teachers' response to reactive and proactive aggression in the classroom, and test the applicability of Weiner's attributional model of motivation and emotion. A sample of 121 middle school teachers completed self-report measures of teaching characteristics, efficacy, stress, and burnout. They also responded to four vignettes of student aggression with measurements of proposed attributions, affective reactions, and interventions. A series of ANOVAs showed that teacher's proposed responses differ as a function of child aggression subtype, teacher stress, burnout, efficacy, and training. Multiple regression analyses were used to test Weiner's theoretical model, as well as consider the moderating influence of teacher characteristics. Findings failed to support the application of Weiner's model to the current sample. Alternative patterns of moderation and mediation were significant, however. Implications of study findings were discussed as they relate to relevant theoretical models and recent advances in clinical and educational research.

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Table 1. Demographic Characteristics of Participating Schools, Non-Participating Schools, and Statewide Norms

2001-2002 SCHOOL CHARACTERISTICS	Participating Schools		Non-Participating Schools				Statewide Norms
	M	SD	M	SD	F	Sig	M
DEMOGRAPHIC CHARACTERISTICS							
Student Enrollment	537.00	229.46	500.25	162.27	0.15	0.70	174
Student-Teacher Ratio	13.67	1.98	14.59	2.28	0.87	0.36	16.9
% Students Receiving Free Lunch	29.82	18.74	36.57	6.83	0.82	0.38	24.25
ACADEMIC CHARACTERISTICS							
% Passing SOL English subtest	77.09	9.19	79.38	12.77	0.21	0.66	76
% Passing SOL Math subtest	79.64	9.21	87.25	11.51	2.57	0.13	71
SCHOOL SAFETY							
Total serious violent incidents	7.55	13.85	0.52	0.38	2.11	0.17	8.83
Total physical fights	9.64	13.60	3.38	4.57	1.55	0.23	98.05
Total possession of firearms	0	0	0	0	--	--	0.58
Total possession of other weapons	0.36	0.50	0.63	0.74	0.84	0.37	15.66

Table 2: Descriptive characteristics of the MBI

	M	SD	Range
MBI			
Emotional Exhaustion	22.98	10.98	2-45
Depersonalization	7.34	5.65	0-24
Personal Accomplishment	36.48	7.31	19-48

Table 3: Zero-order correlations among MBI and TCI subscales of interest

	MBI-EE	MBI-D	MBI-PA	TCI-TS	TCI-EM	TCI-FM	TCI-CM	TCI-GM	TCI-BM
MBI									
Emotional Exhaustion	1.00	.605**	-.390**	.700**	.523**	.464**	.424**	.165	.303**
Depersonalization		1.00	-.402**	.500**	.363**	.296**	.326**	.120	.324**
Personal Accomplishment			1.00	-.415**	-.442**	-.386**	-.251**	-.142	-.242**
TCI									
Total Stress				1.00	.759**	.767**	.755**	.514**	.586**
Emotional Manifestations					1.00	.596**	.552**	.422**	.441**
Fatigue Manifestations						1.00	.579**	.491**	.495**
Cardiovascular Manifestation							1.00	.491**	.474**
Gastronomical Manifestation								1.00	.425**
Behavioral Manifestations									1.00

** $p<0.01$, two-tailed comparisons

Table 4. Main Effect Results: Attribution Scores By Condition

	Proactive N=121		Reactive N=121				
	M	SD	M	SD	F	Partial Eta Squared	Sig
Severity [a]	9.73	1.31	8.01	1.60	30.834	0.206	0.000
Locus [b]	3.00	1.77	3.96	2.05	7.193	0.057	0.008
Control [c]	3.72	1.97	3.69	1.79	0.048	0.000	0.828
Stability [d]	9.37	1.30	7.37	1.77	32.340	0.214	0.000
Intentionality [e]	6.60	1.98	6.45	2.04	0.776	0.006	0.380
	Treatment N=121		No Treatment N=121				
	M	SD	M	SD	F	Partial Eta Squared	Sig
Severity [a]	8.89	1.38	8.85	1.48	0.126	0.001	0.724
Locus [b]	3.58	1.91	3.38	1.82	1.691	0.014	0.196
Control [c]	3.79	1.93	3.62	1.79	1.317	0.011	0.253
Stability [d]	8.29	1.38	8.45	1.69	1.450	0.012	0.231
Intentionality [e]	6.57	1.95	6.48	2.01	0.409	0.003	0.524

[a]10=”very severe problem”; [b]10=”something about others/the situation”; [c]10=”not at all within his control”; [d]10=”certain to happen again”; [e]10=”definitely intentional”

Table 5. Main Effect Results: Affective Reaction Scores By Condition (10=”certainly applies to me”)

	Proactive N=121		Reactive N=121				
	M	SD	M	SD	F	Partial Eta Squared	Sig
Anger	5.03	2.69	3.66	2.52	10.14	0.078	0.002
Sympathy	4.80	2.20	4.42	2.17	8.37	0.066	0.005
Stress	7.55	2.76	4.48	2.72	29.66	0.401	0.000
Helpless	3.75	2.07	2.15	1.69	16.53	0.182	0.000
Hurt/Offended	2.84	1.78	2.04	1.60	10.99	0.085	0.001
Irritated	6.91	2.50	5.23	2.51	14.69	0.173	0.000
	Treatment N=121		No Treatment N=121				
	M	SD	M	SD	F	Partial Eta Squared	Sig
Anger	4.28	2.51	4.41	2.71	1.04	0.009	0.309
Sympathy	4.65	2.19	4.57	2.20	0.43	0.004	0.512
Stress	5.93	2.74	6.10	2.75	2.06	0.017	0.154
Helpless	2.92	1.74	2.98	1.93	0.38	0.003	0.540
Hurt/Offended	2.87	1.60	2.01	1.74	3.51	0.029	0.064
Irritated	6.66	2.45	5.78	2.63	3.27	0.027	0.073

Table 6. Main Effect Results: Intervention Scores By Condition (10="very likely to do")

	Proactive N=121		Reactive N=121				
	M	SD	M	SD	F	Partial Eta Squared	Sig
Punishment	7.41	2.38	7.35	2.30	0.19	0.002	0.664
Threats	7.83	2.33	6.69	2.45	14.38	0.108	0.000
Support	6.61	2.54	5.99	2.77	8.37	0.066	0.005
Learn More	6.26	2.91	5.66	2.76	4.68	0.038	0.033
Refer	6.98	2.55	6.10	2.59	8.08	0.064	0.005
Educational	8.35	1.91	7.96	2.06	3.66	0.030	0.054
	Treatment N=121		No Treatment N=121				
	M	SD	M	SD	F	Partial Eta Squared	Sig
Punishment	7.31	2.30	7.45	2.37	1.22	0.010	0.271
Threats	7.13	2.49	7.39	2.44	2.70	0.022	0.103
Support	6.21	2.81	6.39	2.62	1.17	0.010	0.282
Learn More	5.90	2.79	6.02	2.92	0.69	0.006	0.409
Refer	6.49	2.64	6.59	2.50	0.70	0.006	0.403
Educational	8.12	2.07	8.19	1.94	0.39	0.003	0.533

Table 7. Descriptive characteristics of proposed teacher affective responses and interventions by aggression subtype and teacher training *

	Training				No Training			
	PRO		REA		PRO		REA	
	M	SD	M	SD	M	SD	M	SD
Anger	3.19	2.33	3.12	2.38	4.51	2.77	3.96	2.57
Stress	4.62	2.72	3.65	2.55	6.07	2.66	4.95	2.72
Helplessness	2.20	1.78	1.62	0.86	3.06	2.16	2.44	1.95
Irritated	5.51	2.50	4.70	2.53	6.45	2.45	5.53	2.47
Hurt/Offended	1.87	1.29	1.60	1.07	2.60	1.96	2.29	1.79
Learn More	5.98	2.57	5.52	2.70	6.64	2.53	6.42	2.49
Support	6.58	2.64	6.14	2.64	7.44	2.09	6.99	2.30
Refer to Counseling	5.31	2.96	5.13	2.65	6.32	2.83	5.95	2.80

*Only responses with significant main effects are listed.

Table 8. Mixed between-within ANOVAs: Impact of teacher training and aggression subtype on proposed affective reactions and interventions *

Affective Reactions		F	Sig	Eta squared	Observed Power
DV: Anger	Agg	6.42	.013	.052	.710
	Training	5.25	.024	.043	.623
	Agg*Training	3.84	.052	.032	.493
DV: Stress	Agg	29.86	.000	.372	1.00
	Training	7.80	.006	.062	.791
	Agg*Training	.401	.528	.003	.096
DV: Helplessness	Agg	23.80	.000	.168	.998
	Training	6.52	.012	.052	.717
	Agg*Training	.021	.885	.000	.052
DV: Irritation	Agg	39.48	.000	.251	1.00
	Training	3.85	.052	.032	.494
	Agg*Training	.136	.713	.001	.065
DV: Hurt/Offended	Agg	9.61	.002	.075	.867
	Training	5.39	.022	.044	.634
	Agg*Training	.056	.813	.000	.056
Proposed Interventions		F	Sig	Eta squared	Observed Power
DV: Learn More	Agg	9.05	.033	.071	.847
	Training	8.88	.004	.023	.373
	Agg*Training	1.00	.319	.008	.168
DV: Support	Agg	13.06	.000	.100	.948
	Training	3.92	.050	.032	.502
	Agg*Training	0.001	.980	.000	.050
DV: Refer to Counseling	Agg	3.59	.060	.030	.468
	Training	3.55	.053	.026	.421
	Agg*Training	0.38	.541	.003	.093

*Only responses with significant main effects are listed

Table 9. Descriptive characteristics of proposed teacher affective responses and interventions by aggression subtype and teacher efficacy

	High Efficacy				Low Efficacy			
	PRO		REA		PRO		REA	
	M	SD	M	SD	M	SD	M	SD
Anger	3.30	2.51	2.96	2.37	4.70	2.69	4.29	2.51
Stress	4.82	2.88	3.74	2.71	6.21	2.49	5.16	2.57
Helplessness	2.14	1.69	1.71	1.23	3.30	2.23	2.54	1.95
Hurt/Offended	1.94	1.47	1.69	1.27	2.70	1.96	2.36	1.80
Punishment	7.79	2.36	7.82	2.34	7.06	2.37	6.93	2.20
Refer to Counseling	4.89	2.82	4.91	2.85	6.92	2.66	6.33	2.53

*Only responses with significant main effects are listed.

Table 10. Mixed between-within ANOVAs: Impact of efficacy and aggression subtype on proposed affective responses and interventions*

Affective Reactions		F	Sig	Eta squared	Observed Power
DV: Anger	Agg	9.92	.002	.078	.878
	Training	9.29	.003	.073	.856
	Agg*Training	0.11	.738	.001	.063
DV: Stress	Agg	38.96	.000	.401	1.00
	Training	8.86	.004	.070	.839
	Agg*Training	0.03	.868	.000	.053
DV: Helplessness	Agg	25.96	.000	.180	.999
	Training	10.14	.002	.079	.885
	Agg*Training	2.02	.158	.017	.291
DV: Hurt/Offended	Agg	10.72	.001	.083	.901
	Training	6.02	.016	.049	.682
	Agg*Training	0.29	.595	.002	.083
Proposed Interventions		F	Sig	Eta squared	Observed Power
DV: Punishment	Agg	0.16	.687	.001	.069
	Training	4.03	.047	.033	.513
	Agg*Training	0.36	.550	.003	.091
DV: Refer to Counseling	Agg	4.35	.039	.036	.543
	Training	13.12	.000	.100	.949
	Agg*Training	4.90	.029	.040	.593

*Only responses with significant main effects are listed

Table 11. Descriptive characteristics of proposed teacher affective responses by aggression subtype and teacher stress and burnout

		Anger		Stress		Helplessness		Hurt/Offended		Irritated	
		M	SD	M	SD	M	SD	M	SD	M	SD
Low Stress	PRO	3.32	2.20	4.55	2.38	2.01	1.60	1.75	1.17	5.43	2.30
	REA	2.92	2.03	3.45	2.33	1.48	0.97	1.49	1.04	4.56	2.25
High Stress	PRO	4.75	2.95	6.55	2.77	3.49	2.22	2.93	2.07	6.79	2.52
	REA	4.40	2.75	5.52	2.71	2.82	1.98	2.59	1.87	5.91	2.60
Low DP	PRO	3.27	2.34	4.98	2.56	2.23	1.59	1.93	1.35	5.33	2.34
	REA	3.01	2.18	3.83	2.51	1.66	1.07	1.70	1.17	4.56	2.21
High DP	PRO	4.66	2.75	5.98	2.87	3.12	2.21	2.68	1.98	6.81	2.46
	REA	4.18	2.64	4.99	2.81	2.03	1.57	2.30	1.80	5.73	2.65
Low EE	PRO	3.28	2.32	4.66	2.60	2.28	1.87	2.19	1.69	5.49	2.48
	REA	2.93	2.14	3.55	2.45	1.71	1.15	1.93	1.51	4.65	2.45
High EE	PRO	4.57	2.77	6.25	2.67	3.03	1.97	2.37	1.74	6.57	2.43
	REA	4.19	2.62	5.21	2.72	2.37	1.85	2.03	1.55	5.58	2.46
Low PA	PRO	4.93	2.55	6.13	2.61	2.96	2.11	2.67	1.84	6.69	2.31
	REA	4.45	2.46	5.11	2.71	2.31	1.80	2.35	1.77	5.73	2.40
High PA	PRO	2.75	2.20	4.65	2.71	2.28	1.69	1.82	1.43	5.25	2.52
	REA	2.51	2.03	3.51	2.45	1.71	1.18	1.55	1.01	4.38	2.40

*Only responses with significant main effects are listed.

Table 12. Between-subjects effects for affective reactions by teacher stress and burnout characteristics*

	TCI-TS			MBI-EE			MBI-DP			MBI-PA		
	F	Eta^2	Sig	F	Eta^2	Sig	F	Eta^2	Sig	F	Eta^2	Sig
ıngeı	10.83	.084	.001	8.21	.068	.005	8.23	.068	.005	24.20	.176	.000
tress	20.37	.147	.000	11.96	.096	.001	4.99	.042	.028	10.51	.085	.002
Ielpless	22.45	.160	.000	5.47	.046	.021	8.05	.066	.005	4.45	.038	.037
Iurt/Offended	16.74	.124	.000	0.23	.002	.626	5.71	.048	.019	8.71	.072	.004
:ritated	10.30	.080	.002	5.29	.045	.023	9.57	.078	.002	10.56	.085	.002

*Only responses with significant main effects are listed.

Table 13. Summary of zero-order correlations among attributions, affective reactions, and proposed interventions

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Severity[a]	1.00	-.08	-.09	.35**	.06	.22*	.21*	-18	.07	.06	31**	.09	.12	37**	.09	37**	33**
2. Locus[b]		1.00	.23*	.01	-.32**	-.07	-.13	.08	.02	.08	-.10	-.10	.04	-.04	.06	.02	.08
3. Control[c]			1.00	.09	-.59**	-.20*	-.22*	.16	.11	-.07	.02	.07	.18	-.21*	24**	-.12	.01
4. Stability[d]				1.00	.08	-.07	.01	.16	.12	-.06	.13	.23*	.12	.08	.14	.11	27**
5. Intentionality[e]					1.00	30**	.23*	-.16	.03	.08	.11	-.07	.23*	.19*	-.19*	.23*	-.06
6. Anger						1.00	.74**	-.24**	.50**	.52**	.67**	-.07	-.06	37**	-.04	56**	.01
7. Irritated							1.00	-.08	.42**	.37**	.60**	-.01	-.10	50**	-.03	54**	.12
8. Sympathy								1.00	.13	.12	-.01	35**	36**	-.12	29**	-.11	.08
9. Helpless									1.00	.66**	.51**	.06	.19*	.17	.18*	34**	.04
10. Hurt/Offend										1.00	.41**	-.15	.05	.15	.01	25**	-.06
11. Stress/Anxious											1.00	.09	.14	37**	.16	55**	.15
12. Punishment												1.00	.42**	.00	.40**	.02	.32**
13. Threats													1.00	.15	.41**	-.03	.16
14. Support														1.00	-.11	.55**	.29**
15. Learn More															1.00	.04	.28**
16. Refer																1.00	.17
17. Educational																	1.00

* $p \leq 0.05$ ** $p \leq 0.01$, two-tailed comparisons

[a]10="very severe problem"; [b]10="something about others/the situation"; [c]10="not at all within his control"; [d]10="certain to happen again"; [e]10=" definitely intentional";

Table 14. Summary of Hierarchical Regressions: Supported Tests of Mediation

	R^2	B	SE	ß	Sig	B_{ind}	SE_{ind}	Sig_{ind}	% Variance
Dependent Variable: Supportive Behavior									
Step 1: Problem Severity	.137	.665	.370	.370	.000				
Step 2: Problem Severity	.286	.501	.144	.279	.001				
Negative Affect		.397	.080	.397	.000	.164	.072	.021	25.0
Dependent Variable: Supportive Behavior									
Step 1: Control	.037	-.291	.123	-.213	.019				
Step 2: Control	.212	-.157	.114	-.115	.171				
Negative Affect		.435	.084	.435	.000	-.134	.059	.021	46.0
Dependent Variable: Supportive Behavior									
Step 1: Intentionality	.034	.240	.117	.186	.042				
Step 2: Intentionality	.216	.079	.110	.061	.476				
Negative Affect		.444	.085	.444	.000	.161	.059	.007	67.0
Dependent Variable: Refer to Counseling									
Step 1: Intentionality	.052	.349	.137	.228	.012				
Step 2: Intentionality	.355	.102	.119	.067	.390				
Negative Affect		.682	.092	.574	.000	.247	.085	.004	71.0

Table 15. Summary of Hierarchical Regressions: Supported Tests of Moderation

	R^2	B	SE	ß	Sig
Dependent Variable: Negative Affect					
Step 1: Intentionality	.079	.362	.114	.281	.002
Step 2: Intentionality	.115	.348	.112	.270	.002
ED Training		-.908	.416	-.190	.031
Step 3: Intentionality	.162	.596	.146	.463	.000
ED Training		-.948	.407	-.199	.021
Intentionality X ED Training		.568	.221	.292	.012
Dependent Variable: Negative Affect					
Step 1: Problem Severity	.053	.413	.161	.230	.011
Step 2: Problem Severity	.148	.415	.153	.231	.008
TCI Stress Total Score		1.41	.391	.308	.000
Step 3: Problem Severity	.197	.052	.231	-.029	.823
TCI Stress Total Score		1.37	.381	.299	.000
Severity X Stress		.804	.303	.341	.009
Dependent Variable: Negative Affect					
Step 1: Problem Severity	.053	.406	.162	.230	.013
Step 2: Problem Severity	.127	.370	.156	.209	.020
MBI Depersonalization		1.23	.399	.273	.003
Step 3: Problem Severity	.168	.048	.236	-.027	.840
MBI Depersonalization		1.22	.392	.270	.002
Severity X Depersonalization		.722	.310	.311	.022

Table 16. Summary of Hierarchical Regressions: Supported Tests of Moderation II

	R^2	B	SE	ß	Sig
Dependent Variable: Threats					
Step 1: Intentionality	.071	.332	.129	.231	.011
Step 2: Intentionality	.100	.343	.131	.239	.010
TCI Stress Total Score		.224	.465	.044	.631
Step 3: Intentionality	.171	.625	.181	.435	.001
TCI Stress Total Score		.237	.458	.047	.605
Intentionality X Stress		.569	.258	.276	.029
Dependent Variable: Punishment					
Step 1: Stability	.043	.370	.147	.225	.013
Step 2: Stability	.041	.369	.148	.225	.014
ED Training		-.367	.415	-.079	.379
Step 3: Stability	.059	.566	.182	.345	.002
ED Training		-.395	.411	-.085	.339
Stability X ED Training		-.557	.305	-.202	.051

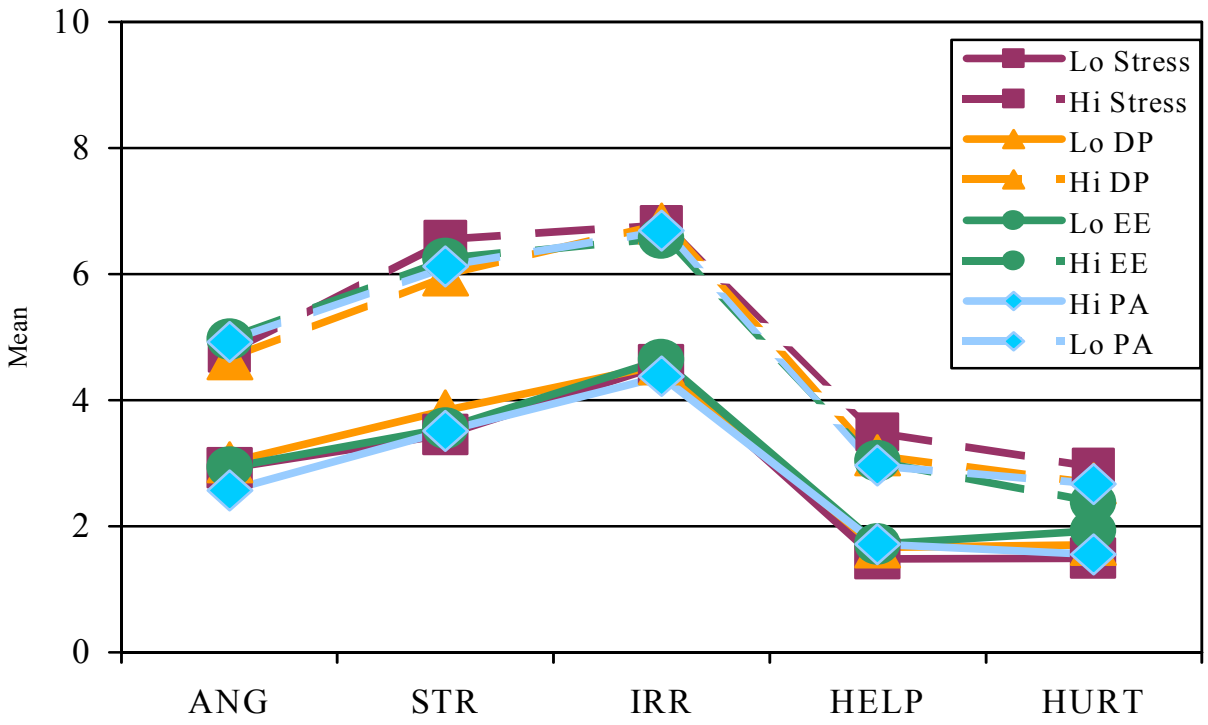

Figure 1. Ratings of Negative Affective Responses by Stress and Burnout.

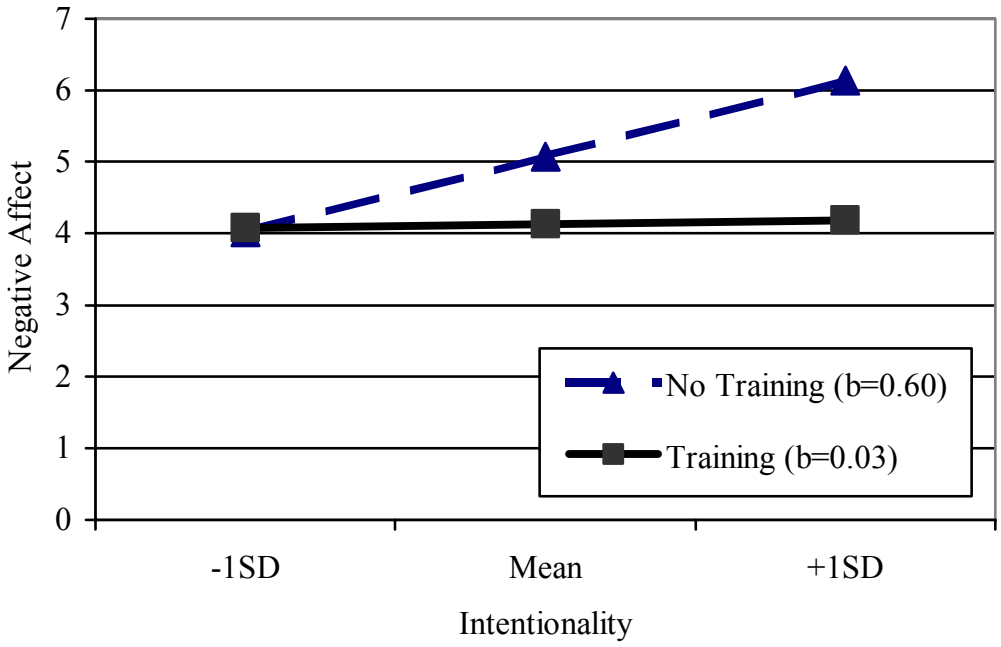

Figure 2. Post-hoc probing of significant moderation effects: Moderating effect of training on the relationship between attributions of intentionality and negative affect.

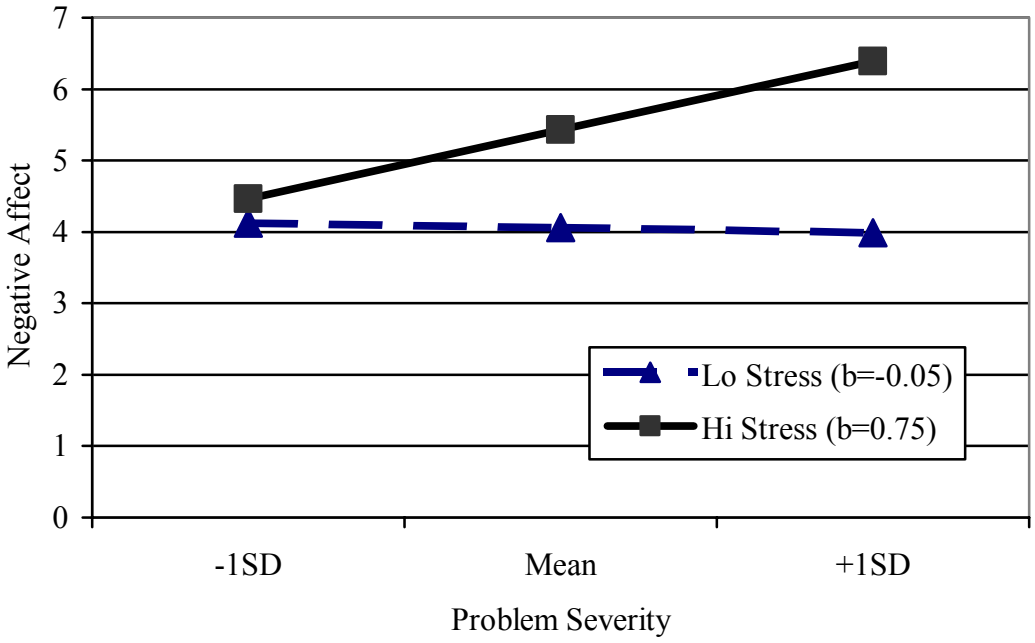

Figure 3. Post-hoc probing of significant moderation effects: Moderating effect of stress on the relationship between attributions of problem severity and negative affect.

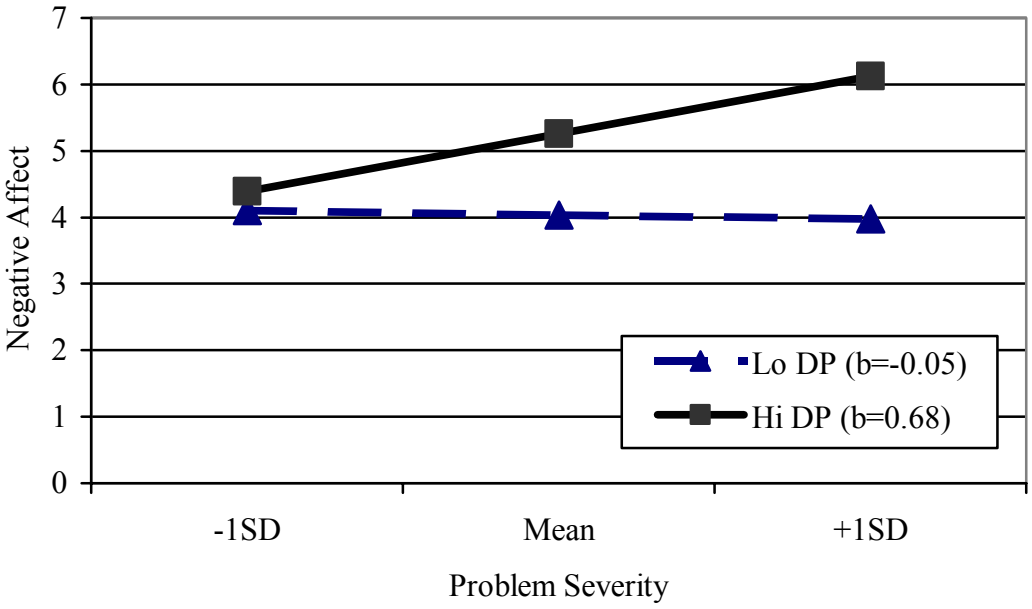

Figure 4. Post-hoc probing of significant moderation effects: Moderating effect of DP on the relationship between attributions of problem severity and negative affect.

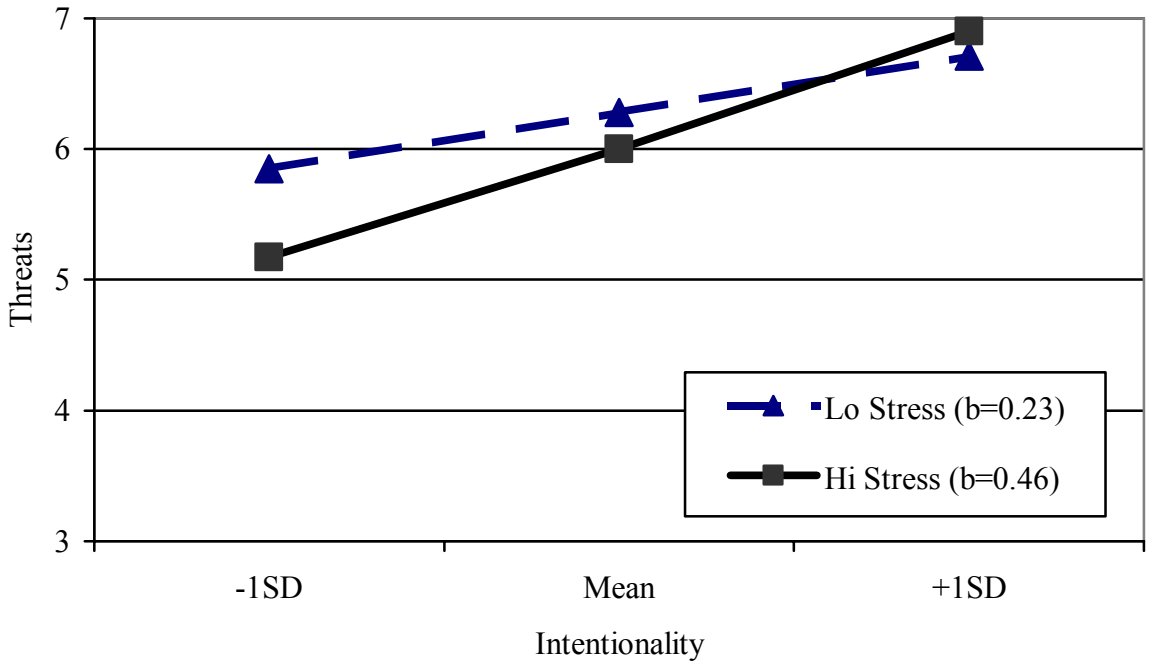

Figure 5. Post-hoc probing of significant moderation effects: Moderating effect of stress on the relationship between attributions of intentionality and use of threats.

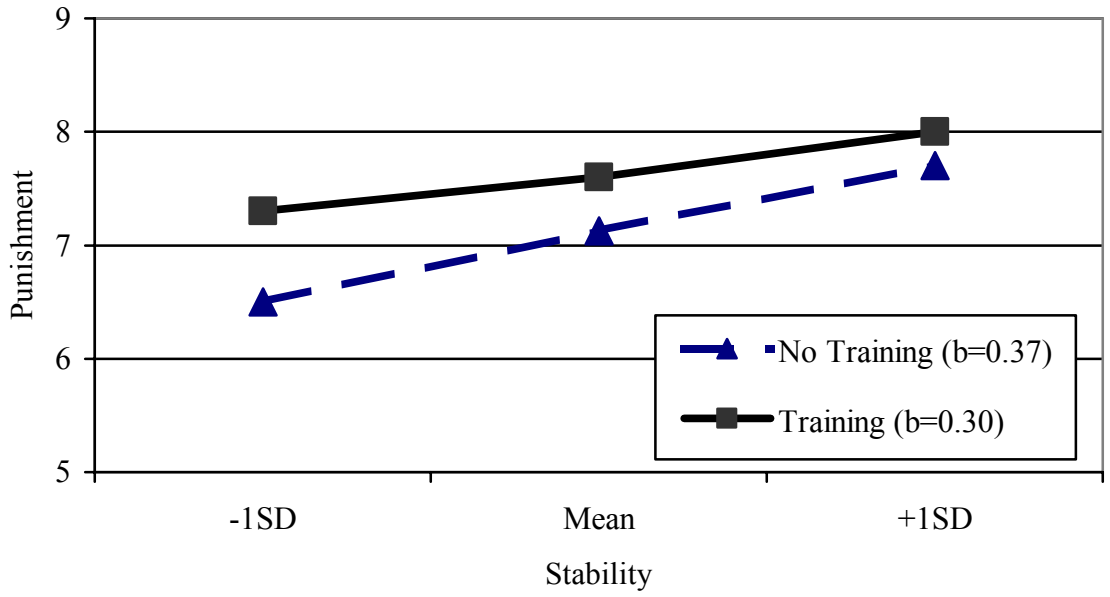

Figure 6. Post-hoc probing of significant moderation effects: Moderating effect of training on the relationship between attributions of stability and use of punishment.

Appendix A: Study Measures

Participant ID: _____

Date Completed: _____

Directions: Please complete the following questionnaires about your teaching experiences. Upon completion, please submit these questionnaires, in combination with the second packet, to the project coordinator using the attached envelope. If you have any questions about the questionnaires, feel free to contact the project coordinator at any time by phone or e-mail. Contact information is listed on your copy of the consent form.

Participant ID: _____

Teacher Questionnaire

Background Information

1. Gender: (circle one) Male Female

2. Ethnicity: _____

3. Age: _____

Training

4. What year did you complete your teacher training? _____

5. How many years of training did you receive in the field of education? _____

6. What is the most advanced degree you have? Bachelors Masters Doctorate

7. Have you received any specialized training for working with emotionally or behaviorally disturbed children? Yes No

8. If so, please describe the nature of this training below:

_____

_____

Teaching Information

9. What grade(s) have you taught? _____

10. What grade(s) do you currently teach? _____

11. How many students do you teach each day? _____

12. How many years have you been teaching? _____

13. Please rate the extent to which you have worked with special education students:

    Never Rarely Sometimes Often Very Often Every Year

14. Please rate the extent to which you have worked with students who exhibit serious emotional or behavioral problems:

    Never Rarely Sometimes Often Very Often Every Year

Participant ID: _____

Teachers' Sense of Efficacy Scale

Teacher Beliefs	How much can you do?							
Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.	Nothing		Very little		Some influence		Quite a bit	A great deal
1. How much can you do to get through to the most difficult students?	1	2	3	4	5	6	7	8
2. How much can you do to help your students think critically?	1	2	3	4	5	6	7	8
3. How much can you do to control disruptive behavior in the classroom?	1	2	3	4	5	6	7	8
4. How much can you do to motivate students who show low interest in school work?	1	2	3	4	5	6	7	8
5. To what extent can you make your expectations clear about student behavior?	1	2	3	4	5	6	7	8
6. How much can you do to get students to believe they can do well in school work?	1	2	3	4	5	6	7	8
7. How well can you respond to difficult questions from your students?	1	2	3	4	5	6	7	8
8. How well can you establish routines to keep activities running smoothly?	1	2	3	4	5	6	7	8
9. How much can you do to help your students value learning?	1	2	3	4	5	6	7	8
10. How much can you gauge student comprehension of what you have taught?	1	2	3	4	5	6	7	8
11. To what extent can you craft good questions for your students?	1	2	3	4	5	6	7	8
12. How much can you do to foster student creativity?	1	2	3	4	5	6	7	8
13. How much can you do to get children to follow classroom rules?	1	2	3	4	5	6	7	8
14. How much can you do to improve the understanding of a student who is failing?	1	2	3	4	5	6	7	8
15. How much can you do to calm a student who is disruptive or noisy?	1	2	3	4	5	6	7	8

	Nothing		Very little		Some influence		Quite a bit	A great deal
16. How well can you establish a classroom management system with each group of students?	1	2	3	4	5	6	7	8
17. How much can you do to adjust your lessons to the proper level for individual students?	1	2	3	4	5	6	7	8
18. How much can you use a variety of assessment strategies?	1	2	3	4	5	6	7	8
19. How well can you keep a few problem students from ruining an entire lesson?	1	2	3	4	5	6	7	8
20. To what extent can you provide an alternative explanation or example when students are confused?	1	2	3	4	5	6	7	8
21. How well can you respond to defiant students?	1	2	3	4	5	6	7	8
22. How much can you assist families in helping their children do well in school?	1	2	3	4	5	6	7	8
23. How well can you implement alternative strategies in your classroom?	1	2	3	4	5	6	7	8
24. How well can you provide appropriate challenges for very capable students?	1	2	3	4	5	6	7	8

Participant ID: _____

TEACHER CONCERNS INVENTORY

The following are a number of teacher concerns. Please identify those factors which cause you stress in your present position. Read each statement carefully and decide if you ever feel this way about your job. Then, indicate how strong the feeling is when you experience it by circling the appropriate rating on the 5-point scale. If you have not experienced this feeling, or if the item is inappropriate for your position, circle number 1 (no strength; not noticeable). The rating scale is shown at the top of each page.

Examples:

I feel insufficiently prepared for my job. 1 2 3 4 5

If you feel very strongly that you are insufficiently prepared for your job, you would circle number 5.

I feel that if I step back in either effort or commitment, I may be seen as less competent. 1 2 3 4 5

If you never feel this way, and the feeling does not have noticeable strength, you would circle number 1.

---

1 Not true of me	2 Barely true of me	3 Moderately true of me	4 Very true of me	5 Extremely true of me

---

1. I easily over-commit myself.	1	2	3	4	5
2. I become impatient if others do things too slowly.	1	2	3	4	5
3. I have to try doing more than one thing at a time.	1	2	3	4	5
4. I have little time to relax/enjoy the time of day.	1	2	3	4	5
5. I think about unrelated matters during conversations.	1	2	3	4	5
6. I feel uncomfortable wasting time.	1	2	3	4	5
7. There isn't enough time to get things done.	1	2	3	4	5
8. I rush in my speech.	1	2	3	4	5
9. There is little time to prepare for my lessons/responsibilities.	1	2	3	4	5
10. There is too much work to do.	1	2	3	4	5
11. The pace of the school day is too fast.	1	2	3	4	5
12. My caseload/class is too big.	1	2	3	4	5
13. My personal priorities are being shortchanged due to time demands.	1	2	3	4	5
14. There is too much administrative paperwork in my job.	1	2	3	4	5
15. I lack promotion and/or advancement opportunities.	1	2	3	4	5
16. I am not progressing in my job as rapidly as I would like.	1	2	3	4	5
17. I need more status and respect on my job.	1	2	3	4	5
18. I receive an inadequate salary for the work I do.	1	2	3	4	5

1 not true of me	2 barely true of me	3 moderately true of me	4 very true of me	5 extremely true of me

19. I lack recognition for the extra work and/or good teaching I do.	1	2	3	4	5
20. My personal opinions are not sufficiently listened to.	1	2	3	4	5
21. I lack control over decisions made about classroom/school matters.	1	2	3	4	5
22. I am not emotionally/intellectually stimulated on the job.	1	2	3	4	5
23. I lack opportunities for professional improvement.	1	2	3	4	5
I feel frustrated...					
24. ...because of discipline problems in my classroom.	1	2	3	4	5
25. ...having to monitor pupil behavior.	1	2	3	4	5
26. ...because some students would be better if they tried.	1	2	3	4	5
27. ...attempting to teach students who are poorly motivated.	1	2	3	4	5
28. ...because of inadequate/poorly defined discipline problems.	1	2	3	4	5
29. ...when my authority is rejected by pupils/administration.	1	2	3	4	5
I respond to stress...					
30. ...by feeling insecure.	1	2	3	4	5
31. ...by feeling vulnerable.	1	2	3	4	5
32. ...by feeling unable to cope.	1	2	3	4	5
33. ...by feeling depressed.	1	2	3	4	5
34. ...by feeling anxious.	1	2	3	4	5
35. ...by sleeping more than usual.	1	2	3	4	5
36. ...by procrastinating.	1	2	3	4	5
37. ...by becoming fatigued in a very short time.	1	2	3	4	5
38. ...with physical exhaustion.	1	2	3	4	5
39. ...with physical weakness.	1	2	3	4	5
40. ...with feelings of increased blood pressure.	1	2	3	4	5
41. ...with feeling of heart pounding or racing.	1	2	3	4	5
42. ...with rapid and/or shallow breath.	1	2	3	4	5
43. ...with stomach pain of extended duration.	1	2	3	4	5
44. ...with stomach cramps.	1	2	3	4	5
45. ...with stomach acid.	1	2	3	4	5
46. ...by using over-the-counter drugs.	1	2	3	4	5
47. ...by using prescription drugs.	1	2	3	4	5
48. ...by using alcohol.	1	2	3	4	5
49. ...by calling in sick.	1	2	3	4	5

Educators Survey

The purpose of this survey is to discover how educators view their job and the people with whom they work closely. There are 22 statements of job-related feelings listed below. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, write a "0" (zero) in the space before the statement. If you have had this feeling, indicate how often you feel it by writing the number (from 1 to 6) that best describes how frequently you feel that way.

HOW OFTEN:	0	1	2	3	4	5	6
	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

HOW OFTEN Statements:

0-6

1. _____ I feel emotionally drained from my work.
2. _____ I feel used up at the end of the workday.
3. _____ I feel fatigued when I get up in the morning and have to face another day on the job.
4. _____ I can easily understand how my students feel about things.
5. _____ I feel I treat some students as if they were impersonal objects.
6. _____ Working with people all day is really a strain for me.
7. _____ I deal very effectively with the problems of my students.
8. _____ I feel burned out from my work.
9. _____ I feel I'm positively influencing other people's lives through my work.
10. _____ I've become more callous toward people since I took this job.
11. _____ I worry that this job is hardening me emotionally.
12. _____ I feel very energetic.
13. _____ I feel frustrated by my job.
14. _____ I feel I'm working too hard on my job.
15. _____ I don't really care what happens to some students.
16. _____ Working with people directly puts too much stress on me.
17. _____ I can easily create a relaxed atmosphere with my students.

18. _____ I feel exhilarated after working closely with my students.

19. _____ I have accomplished many worthwhile things in this job.

20. _____ I feel like I'm at the end of my rope.

21. _____ In my work, I deal with emotional problems very calmly.

22. _____ I feel students blame me for some of their problems.

Participant ID: _____1_____

Date Completed: _____

Part Two

Directions: Please complete the following questionnaires about your teaching experiences and perspectives. Upon completion, please mail these questionnaires, in combination with the first packet, to the project coordinator using the attached envelope. If you have any questions about the questionnaires, feel free to contact the project coordinator at any time by phone or e-mail. Contact information is listed on your copy of the consent form.

Classroom Situations Questionnaire: Part One

Directions: Please read the following story about a hypothetical student in your classroom. Following the story, you will be presented with a series of questions about your reactions to what you have read. Please circle the number that best describes the way that you are thinking or feeling. There are no right or wrong answers. Your answers are confidential.

James is an elementary school student in your classroom. According to his records, James has been exhibiting aggressive behavior problems for some time now. James' records also show that he has never participated in a treatment program for managing his behavior.

As you are working with a small group of students in the front of the room, you hear one of your students saying Stop it! over and over again. Looking towards the protests, you see James repeatedly hitting a neighboring student much smaller than him in the back of the head. As you call James to the front of the room, he motions to his friend to follow his lead and continues harassing the student. When you ask James about his actions, he insists that he is just having fun.

1. How much of a problem is James' behavior?	1 Not a Problem	2	3	4	5	6	7	8	9	10 Very Severe Problem
2. What do you think is contributing to James' behavior?	1 Something about James	2	3	4	5	6	7	8	9	10 Something about othe people/the situation
3. How much control do feel that James has over his behavior?	1 Completely within his control	2	3	4	5	6	7	8	9	10 Not at all within his control
4. How likely is it that James' behavior will occur again?	1 A one time thing	2	3	4	5	6	7	8	9	10 Certain to happen again in th future
5. How likely is it that James exhibited this behavior <u>on purpose</u>?	1 Definitely intentional	2	3	4	5	6	7	8	9	10 Not at all intentional

6. If James was in your class, how would you feel? Please circle the number that best represents you for each item.

	Does not apply to me									Certainly applies to me
I would feel stressed/anxious	1	2	3	4	5	6	7	8	9	10
I would feel helpless/depressed	1	2	3	4	5	6	7	8	9	10
I would feel hurt/offended	1	2	3	4	5	6	7	8	9	10
I would feel angry/resentful towards the child	1	2	3	4	5	6	7	8	9	10
I would feel sympathy/compassion towards the child	1	2	3	4	5	6	7	8	9	10
I would feel irritated by the child	1	2	3	4	5	6	7	8	9	10

7. What would you actually do for James if he was in your classroom? Please circle the number that best represents you for each item:

	Very unlikely to do									Very likely to do
Use punishments	1	2	3	4	5	6	7	8	9	10
Use threats (i.e., send the child to the principal)	1	2	3	4	5	6	7	8	9	10
Supportive behavior towards child	1	2	3	4	5	6	7	8	9	10
Use counseling with the child	1	2	3	4	5	6	7	8	9	10
Explain to the child the way school functions (i.e., rules)	1	2	3	4	5	6	7	8	9	10
Learn more about teaching students with these problems	1	2	3	4	5	6	7	8	9	10

8. How likely is it that you will be successful in addressing this problem?

1	2	3	4	5	6	7	8	9	10
Not at all likely									Very Likely

Classroom Situations Questionnaire: Part Two

Directions: Please read the following story about a hypothetical student in your classroom. Following the story, you will be presented with a series of questions about your reactions to what you have read. Please circle the number that best describes the way that you are thinking or feeling. There are no right or wrong answers. Your answers are confidential.

Brandon is an elementary school student in your classroom. According to his records, Brandon has been exhibiting aggressive behavior problems for some time now. Brandon's records also show that he has recently completed a social skills and anger control program for managing his behavior.

During silent reading time, you notice that Brandon is passing notes back and forth with a relatively less popular student in the class. As you ask Brandon to bring one of the notes to your desk, he quickly rips up the note and heatedly walks to your desk with the shreds. Upon request the other student brings you the other notes that had been passed to him. The notes all contain threatening remarks, suggesting that Brandon is angry with the other student for winning in the previous afternoon's intramural basketball game.

1. How much of a problem is Brandon's behavior?	1 Not a Problem	2	3	4	5	6	7	8	9	10 Very Severe Problem
2. What do you think is contributing to Brandon's behavior?	1 Something about Brandon	2	3	4	5	6	7	8	9	10 Something about othe people/the situation
3. How much control do feel that Brandon has over his behavior?	1 Completely within his control	2	3	4	5	6	7	8	9	10 Not at all within his control
4. How likely is it that Brandon's behavior will occur again?	1 A one time thing	2	3	4	5	6	7	8	9	10 Certain to happen again in th future
5. How likely is it that Brandon exhibited this behavior <u>on purpose</u>?	1 Definitely intentional	2	3	4	5	6	7	8	9	10 Not at all intentional

6. If Brandon was in your class, how would you feel? Please circle the number that best represents you for each item.

	Does not apply to me									Certainly applies to me
I would feel stressed/anxious	1	2	3	4	5	6	7	8	9	10
I would feel helpless/depressed	1	2	3	4	5	6	7	8	9	10
I would feel hurt/offended	1	2	3	4	5	6	7	8	9	10
I would feel angry/resentful towards the child	1	2	3	4	5	6	7	8	9	10
I would feel sympathy/compassion towards the child	1	2	3	4	5	6	7	8	9	10
I would feel irritated by the child	1	2	3	4	5	6	7	8	9	10

7. What would you actually do for Brandon if he was in your classroom? Please circle the number that best represents you for each item:

	Very unlikely to do									Very likely to do
Use punishments	1	2	3	4	5	6	7	8	9	10
Use threats (i.e., send the child to the principal)	1	2	3	4	5	6	7	8	9	10
Supportive behavior towards child	1	2	3	4	5	6	7	8	9	10
Use counseling with the child	1	2	3	4	5	6	7	8	9	10
Explain to the child the way school functions (i.e., rules)	1	2	3	4	5	6	7	8	9	10
Learn more about teaching students with these problems	1	2	3	4	5	6	7	8	9	10

8. How likely is it that you will be successful in addressing this problem?

1	2	3	4	5	6	7	8	9	10
Not at all likely									Very Likely

Classroom Situations Questionnaire: Part Three

Directions: Please read the following story about a hypothetical student in your classroom. Following the story, you will be presented with a series of questions about your reactions to what you have read. Please circle the number that best describes the way that you are thinking or feeling. There are no right or wrong answers. Your answers are confidential.

Carter is an elementary school student in your classroom. According to his records, Carter has been exhibiting aggressive behavior problems for some time now. Carter's records also show that he has recently completed a social skills and anger control program for managing his behavior.

Your students are playing dodge ball in gym class. Carter is hit with the ball by another student. Although he doesn't seem hurt, he responds by walking towards the student as he goes to the bleachers and pushes him down on the floor. Upon being escorted out of the gymnasium, Carter remarks to you that the event was not his fault. He calmly insists that he is just competitive and the student had been warned before not to consider taking him out of the game. Upon reaching the hallway, Carter pulls away from you with a smirk and walks toward the school exit, ripping down a poster on his way.

1. How much of a problem is Carter's behavior?	1 Not a Problem	2	3	4	5	6	7	8	9	10 Very Severe Problem
2. What do you think is contributing to Carter's behavior?	1 Something about Carter	2	3	4	5	6	7	8	9	10 Something about othe people/the situation
3. How much control do feel that Carter has over his behavior?	1 Completely within his control	2	3	4	5	6	7	8	9	10 Not at all within his control
4. How likely is it that Carter's behavior will occur again?	1 A one time thing	2	3	4	5	6	7	8	9	10 Certain to happen again in th future
5. How likely is it that Carter exhibited this behavior <u>on purpose</u>?	1 Definitely intentional	2	3	4	5	6	7	8	9	10 Not at all intentional

6. If Carter was in your class, how would you feel? Please circle the number that best represents you for each item.

	Does not apply to me									Certainly applies to me
I would feel stressed/anxious	1	2	3	4	5	6	7	8	9	10
I would feel helpless/depressed	1	2	3	4	5	6	7	8	9	10
I would feel hurt/offended	1	2	3	4	5	6	7	8	9	10
I would feel angry/resentful towards the child	1	2	3	4	5	6	7	8	9	10
I would feel sympathy/compassion towards the child	1	2	3	4	5	6	7	8	9	10
I would feel irritated by the child	1	2	3	4	5	6	7	8	9	10

7. What would you actually do for Carter if he was in your classroom? Please circle the number that best represents you for each item:

	Very unlikely to do									Very likely to do
Use punishments	1	2	3	4	5	6	7	8	9	10
Use threats (i.e., send the child to the principal)	1	2	3	4	5	6	7	8	9	10
Supportive behavior towards child	1	2	3	4	5	6	7	8	9	10
Use counseling with the child	1	2	3	4	5	6	7	8	9	10
Explain to the child the way school functions (i.e., rules)	1	2	3	4	5	6	7	8	9	10
Learn more about teaching students with these problems	1	2	3	4	5	6	7	8	9	10

8. How likely is it that you will be successful in addressing this problem?

1	2	3	4	5	6	7	8	9	10
Not at all likely									Very Likely

Classroom Situations Questionnaire: Part Four

Directions: Please read the following story about a hypothetical student in your classroom. Following the story, you will be presented with a series of questions about your reactions to what you have read. Please circle the number that best describes the way that you are thinking or feeling. There are no right or wrong answers. Your answers are confidential.

Robert is an elementary school student in your classroom. According to his records, Robert has been exhibiting aggressive behavior problems for some time now. Robert's records also show that he has never participated in a treatment program for managing his behavior.

Your students are walking in the hallway on their way to lunch. As two younger girls walk past him giggling, you see Robert become very agitated and trip the smaller girl as she is passing by. As she starts to cry, Robert turns to his friends and scowls, stating, "That will teach her to laugh at me". When asked about his behavior, Robert denied his responsibility in the incident, claiming that the girl had been harassing him first.

1. How much of a problem is Robert's behavior?	1 Not a Problem	2	3	4	5	6	7	8	9	10 Very Severe Problem
2. What do you think is contributing to Robert's behavior?	1 Something about Robert	2	3	4	5	6	7	8	9	10 Something about othe people/the situation
3. How much control do feel that Robert has over his behavior?	1 Completely within his control	2	3	4	5	6	7	8	9	10 Not at all within his control
4. How likely is it that Robert's behavior will occur again?	1 A one time thing	2	3	4	5	6	7	8	9	10 Certain to happen again in th future
5. How likely is it that Robert exhibited this behavior <u>on purpose</u>?	1 Definitely intentional	2	3	4	5	6	7	8	9	10 Not at all intentional

6. If Robert was in your class, how would you feel? Please circle the number that best represents you for each item.

	Does not apply to me									Certainly applies to me
I would feel stressed/anxious	1	2	3	4	5	6	7	8	9	10
I would feel helpless/depressed	1	2	3	4	5	6	7	8	9	10
I would feel hurt/offended	1	2	3	4	5	6	7	8	9	10
I would feel angry/resentful towards the child	1	2	3	4	5	6	7	8	9	10
I would feel sympathy/compassion towards the child	1	2	3	4	5	6	7	8	9	10
I would feel irritated by the child	1	2	3	4	5	6	7	8	9	10

7. What would you actually do for Robert if he was in your classroom? Please circle the number that best represents you for each item:

	Very unlikely to do									Very likely to do
Use punishments	1	2	3	4	5	6	7	8	9	10
Use threats (i.e., send the child to the principal)	1	2	3	4	5	6	7	8	9	10
Supportive behavior towards child	1	2	3	4	5	6	7	8	9	10
Use counseling with the child	1	2	3	4	5	6	7	8	9	10
Explain to the child the way school functions (i.e., rules)	1	2	3	4	5	6	7	8	9	10
Learn more about teaching students with these problems	1	2	3	4	5	6	7	8	9	10

8. How likely is it that you will be successful in addressing this problem?

1	2	3	4	5	6	7	8	9	10
Not at all likely									Very Likely

Classroom Characteristics Questionnaire

Please answer the following questions about your current classroom in the space provided. If you teach multiple classes of students, please consider all students you teach in your responses. Your answers are completely confidential.

1. Total number of classes you teach each day: _____

2. Approximate number of students in your current classroom(s): _____

3. What is the approximate gender distribution in your classroom(s)? _____ boys _____ girls

4. Approximate number of students in your current classroom with a special education label: _____

5. For how many students do you provide special accommodations in the classroom (e.g., specialized seating, extra time on tests)? _____

6. How many students in your classroom require an aide? _____

7. If applicable, what are the aide's responsibilities? _____

_____

8. How often do parents or community members visit or volunteer in your classroom? _____

School Characteristics Questionnaire

Please answer the following questions about the school in which you teach. Your answers are completely confidential.

1. How many years have you worked in your current school? _____

2. Approximate number of students in your school: _____

3. Approximate number of teachers in your school: _____

4. What grades are taught in your school? _____

5. How often do you formally meet with school administration? _____

6. How often to you seek assistance from adjunct professionals (e.g., school psychologist) when faced with a challenging student in your class? (circle one) Never Sometimes A lot

7. What kind of technological resources are available to the teachers in your school (e.g., computers/internet)?

_____

_____

_____

8. How often do you collaborate with other teachers on teaching activities? (circle one) None Some A lot

Community Characteristics Questionnaire

Please answer the following questions about the community in which you teach. Your answers are completely confidential.

1. Do you live in the same community that your school is located? Yes No

2. Approximate population of the community in which your school is located: _____

3. Is there a community/recreation center in the community? Yes No

4. Is there a public library in the community? Yes No

5. Do you have access to resources outside the school when faced with a challenging student or problem in the classroom? Yes No

6. How often do you use outside community resources for assistance? (circle one) Never Sometimes Often

7. What is the best thing about the community in which your school is located? _____

_____

8. What is one thing you would like to add to the community in which your school is located?

_____

Appendix B: Participant Contact and Recruitment Materials

[DATE]

[ADDRESS]

Dear [SCHOOL PRINCIPAL]:

We are currently initiating a research project that will explore the teaching characteristics of middle school educators (grades 5-8) and examine different ways in which educators respond to student behavior problems in the classroom. The goal of this project is to better understand and provide assistance with the management of behavior problems of middle school students in your school system.

Approximately 300 middle school teachers will be asked to complete two sets of questionnaires that assess demographic characteristics of the teachers, teacher training and experiences, stress associated with teaching, and responses to various student behaviors. Participation in this project is completely voluntary and confidential. A complete set of questionnaires is included for your review.

We are asking for your permission to conduct this project in your school system. Specifically, we are requesting your permission to conduct an introductory presentation of this project during a staff meeting (or at another time that is convenient to you and the teachers). At this time, we would provide interested teachers with the two packets of forms to complete. In addition, we would leave a number of packets in the main office if teachers decide to participate at a later date. We would ask that the forms be completed at the teachers' convenience. The research staff would be available before, during, and after school hours for questions and will make appointments for phone or face-to-face meetings as needed. The first packet of forms takes approximately 20 minutes to complete and the second packet will take about 40 minutes to complete. Included with both packets will be an addressed and stamped envelope for the teachers' convenience.

Compensation will be offered to teachers for the time and inconvenience associated with participating in the project. Specifically, teachers will be given a gift certificate from one of the local businesses (e.g., Walmart Target) to purchase classroom supplies. In addition, teachers will be offered a summary of the project results as well as recommendations for classroom management of behavior problems they encounter in your school. We will also be available to conduct a free teacher workshop to any participating school on issues related to classroom management of behavior problems.

A member of our research staff will be contacting you by phone in the next two weeks to ascertain whether you are interested in supporting this project in your school and answer any questions that you may have. Thank you in advance for your time and consideration of this request.

Sincerely,

_____

Heather K. Blier, M.S.
Doctoral Candidate in Clinical Psychology
Principal Investigator

_____

Thomas H. Ollendick, Ph.D.
Director, Child Study Center
Research Supervisor

[DATE]

Dear Teachers:

Thank you in advance for your participation in our research project! This project will explore the teaching characteristics of middle school educators and examine different ways in which educators respond to student behavior problems in the classroom. The goal of this project is to better understand and provide assistance with the management of behavior problems of middle school students in your school system as well as the stress associated with teaching these students.

Attached are two sets of questionnaires that assess demographic characteristics, training and experiences, stress associated with teaching, and responses to various student behaviors. The first packet of forms takes approximately 20 minutes to complete and the second packet will take about 40 minutes to complete. Included with both packets will be an addressed and stamped envelope for your convenience. The second packet should be completed at least seven days after completion of the first packet. The research staff would be available before, during, and after school hours to answer questions either by phone or in person. Participation in this project is completely voluntary and confidential.

Compensation will be offered to you for the time and inconvenience associated with participating in the project. Specifically, you will be given a $10 gift certificate from one of the local businesses (e.g., Mish Mish, Michaels, Target) to purchase classroom supplies. This will be sent to you upon receipt of your completed questionnaires. In addition, at the end of the project you will be offered a summary of the project results as well as recommendations for classroom management of behavior problems you encounter in your school.

Finally, please refer to the checklist to help you complete the project and send the appropriate forms back to us.

- ∀ **Packet 1: completed and in envelope provided**
- ∀ **Packet 2: completed (at least 7 days later) and in envelope provided**
- ∀ **Consent form: signed and in envelope provided ("INVESTIGATOR COPY")**
- ∀ **Contact information card: completed and in envelope provided**
- ∀ **A copy of the consent form saved for your records ("TEACHER COPY")**

Thank you for your time. We hope that you will find this project both informative and useful to the development of educational strategies for use with children exhibiting emotional and behavioral problems in the classroom.

Sincerely,

_____

Heather K. Blier, M.S.
Principal Investigator

CURRICULUM VITAE

Heather K. Alvarez

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Personal Information

Date of birth: September 29, 1975
Place of birth: Caribou, Maine
Citizenship: United States
Marital Status: Married

Education and Training

Undergraduate:

B.A. - 1997 **Colby College**. Major: Psychology, Minor: Education
Honors: Magna Cum Laude, Phi Beta Kappa, Psi Chi, Distinction in Major

Graduate:

M.S. -2001 **Virginia Polytechnic Institute and State University**. Clinical Psychology, child specialization; Advisor: Thomas H. Ollendick

Ph.D. -2004 **Virginia Polytechnic Institute and State University**. Clinical Psychology, child specialization; Advisor: Thomas H. Ollendick

Research Experience

1999-2003 **Project Coordinator, Longitudinal Investigation of School Dropout Prediction, Virginia Tech, Blacksburg, VA.**
Responsibilities: Development of data collection, entry, and management activities, undergraduate research supervisor (supervision of data entry and analysis, teaching research and statistical methodology), analysis, presentation, and publication of data from a longitudinal assessment of students in the Montgomery County school system for the purposes of determining dropout risk.

2000-2002 **Research Coordinator, School-based Treatment of Aggressive and Antisocial Youth, Virginia Tech, Blacksburg, VA.**
Responsibilities: Coordination of assessment, data entry, and analysis; treatment development and delivery; clinical supervision.

1999-2000 **Project Coordinator, Independence Secondary School Assessment Project, Virginia Tech, Blacksburg, VA.**
Responsibilities: Development of assessment protocol for intake and outcome evaluations of high-risk adolescents attending a specialized academic program.

1999-2000 **Clinical Research Assistant, NIMH-funded Residential Fire Grant, Blacksburg, VA.**
Responsibilities: Clinical assessment of child and adult victims of residential fires, data management and analysis, participation in data analysis and administrative meetings and case review sessions.

1997-1999 **Clinical Research Analyst, Department of Pediatric Psychopharmacology, Massachusetts General Hospital/Harvard Medical School, Boston, MA.**
Responsibilities: Coordination of a NIMH-funded grant; diagnostic, cognitive and neuropsychological assessment of children and adults; computer administration; statistical analysis, publication and presentation of data; anxillary medical assessment (including EEGs, vitals, phlebotomy). Research focus: Child and adolescent psychopathology, with a specific concentration in mood and behavior disorders. Supervisors: Drs. Joseph Biederman, Janet Wozniak, and Ross Greene.

1996-1997 **Behavioral Medicine Research Assistant, Mid-Maine Medical Center, Waterville, Maine.**
Responsibilities: Follow-up data collection for the chronic pain intervention clinic.

1996-1997 **Independent Research Project, Colby College, Waterville, ME.**
Responsibilities: Development of hypothesis and testing materials, data collection, analysis, publication and presentation of data. Research Focus: The association of personal characteristics, at-risk behavior and health risk perception in adolescents.

1995-1996 **Research Assistant, Colby College, Waterville, ME.**
Responsibilities: Development of hypothesis and testing materials, data collection, analysis, publication and presentation of data. Research focus: The association of personal characteristics, at-risk behavior and health risk perception in college students.

Professional Experience

2003-present **Predoctoral Clinical Psychology Intern, Department of Clinical and Health Psychology, University of Florida, Gainesville, FL.**
Responsibilities: Assessment and treatment of children and adults in hospital and community settings. Clinical Focus: Primary care services, school-based prevention and intervention, child psychoeducational evaluations, cardiac medicine, pain management, outpatient individual and family therapy. Research Focus: Primary care intervention, school violence prevention, ADHD assessment Supervisors include Drs. James Johnson, Sam Sears, Garret Evans, Julius Gylys.

2002-2003 **Assistant Coordinator, Child Study Center of Virginia Tech, Blacksburg, Virginia.**
Responsibilities: Coordination of assessment services and clinic administrative functions; clinical supervision of graduate students; supervision of research assistants; research grant submission; development of assessment protocol; database maintenance.

2001-2003 **Emergency Triage Counselor, *Respond*, Columbia Lewis-Gale Medical Center, Salem, VA.**
Responsibilities: Emergency psychiatric assessment, consultation, and referral services in rural community hospitals.

1999-2003 **Graduate Clinician, Virginia Tech Psychological Services Center, Blacksburg, VA.**
Responsibilities: Provision of therapy services to children and adults in an outpatient university clinic. Treatment modalities included individual, family, group, and couples therapy. Supervisors included Drs. Thomas H. Ollendick, Lee Cooper, Angela Scarpa, Russell Jones.

2001-2002 **Graduate Clinician, Montgomery County Public Schools, Christiansburg, VA.**
Responsibilities: Development and implementation of group social skills training program for at-risk elementary school students.

Summer 2001 **Graduate Clinician, Montgomery County Juvenile Detention Center, Christiansburg, VA.**
Responsibilities: Provision of intervention services to incarcerated adolescent sexual offenders.

2000-2001 **Child Assessment Clinician, Virginia Tech Psychological Services Center/Child Study Center, Blacksburg, VA.**
Responsibilities: Psychoeducational assessment of children and adults in an outpatient university clinic.

1996-1997 **Inpatient Child Care Clinician, KidsPeace National Centers for Kids in Crisis, Ellsworth, ME.**
Responsibilities: Monitoring and behavior management of children and adolescents in a residential psychiatric setting; assistance with social activities, daily life tasks, academic needs, and community outings; behavior management and academic assistance in residential school.

1996-1997 **Developmental Therapy Clinician, Project PEDS, Mid-Maine Medical Center Waterville,ME.**
Responsibilities: Home-based behavioral intervention with autistic children.

1996-1997 **Academic Assistant, Maine School Administrative Districts #23, 38, Carmel, ME.**
Responsibilities: One-on-one academic support for special education students in the elementary and middle school classroom setting.

1996-1997 **Homebound Instructor, Hermon High School, Hermon, ME.**
Responsibilities: One-on-one academic support for special education students placed in out-of-school suspension in the residential setting.

Winter 1996 **School Psychology Intern, Eastern Maine Counseling and Testing Services, Bangor, ME.**
Responsibilities: Assistance in student psychoeducational evaluation and school consultation.

Memberships in Professional Societies

- International Society for Research on Aggression
- Association for the Advancement of Behavior Therapy
  Scientific Program Assistant, World Congress of Cognitive and Behavior Therapy, Vancouver, BC, 2001
- Anxiety Disorders Association of America
- American Psychological Association (APA), Division 12, 53
  Scientific Program Assistant, Annual Conference, Boston, MA, 1999
- American Psychological Association of Graduate Students

Publications (*Maiden name: Blier)

Alvarez, H.K., Goring, J., Ollendick, T.H. (in preparation). Comorbidity of anxiety and conduct disorders among clinically-referred youth.

Alvarez, H.K., Goring, J., Ollendick, T.H. (in preparation). Longitudinal assessment of school dropout: Findings from a six-year prospective study.

Alvarez, H.K., Fox, L.D., Scarpa, A., & Cooper, L.D. (submitted). School-based group intervention for antisocial and aggressive boys: Long-term academic and psychosocial outcomes. *Behavior Therapy*.

Klein, W.M., **Blier, H.K.**, Helwig, J.E.. (submitted). Social comparison and concern about personal risk for weight problems: The role of target similarity and individuation. *Journal of Motivation & Emotion.*

Johnson, J.H. & **Alvarez, H.K.** (2004). ADHD comorbidity and mimicry. In B.L. Maria (Ed.), *Current management in child neurology (3rd edition)*. London: BC Decker Inc.

Ollendick, T.H., **Alvarez, H.K.**, & Greene, R.W. (2003). Behavioral assessment: History of underlying concepts and methods. In E.M. Heiby & S. Haynes (Eds.), *Comprehensive handbook of psychological assessment: Vol. 3. Behavioral assessment* (pp. 16-37). New York: Wiley.

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Alvarez, H. K., & Ollendick, T. H. (2003). Videotape modeling. In T. H. Ollendick and C. Schroeder (Eds.), *Encyclopedia of clinical child and pediatric psychology*. New York: Kluwer Academic/Plenum Publishers.

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Wozniak, J., Biederman, J., Faraone, S.V., **Blier, H.K.**, & Monuteaux, M.C. (2001). Heterogeneity of childhood conduct disorder: Further evidence of a subtype of conduct disorder linked to bipolar disorder. *Journal of Affective Disorders, 64(2-3)*: 121-131.

Klein, W.M.P, **Blier, H.K.**, & Janze, A.M. (2001). Maintaining positive self-evaluations by reducing attention to unfavorable social comparison information when general self-regard is salient. *Journal of Motivation & Emotion, 25(1): 23-40*.

Greene, R., Biederman, J., Faraone, S.V., Wilens, T., Mick, E., **Blier, H.K.** (1999). Further validation of social impairment as a predictor of substance use disorders: Findings from a sample of siblings of boys with and without ADHD. *Journal of Clinical Child Psychology. 28(3)*: 349-354.

Wozniak, J., Crawford, M.H., Biederman, J., Faraone, S.V., Spencer, T., Taylor, A., **Blier, H.K.** (1999). Antecedents and complications of trauma in boys with ADHD: Findings from a longitudinal sample. *Journal of the American Academy of Child and Adolescent Psychiatry. 38(1)*: 48-55.

Conference Presentations/Workshops

Alvarez, H.K., Danda, C.E., Evans, G.D. (submitted). Factors that influence adolescent help-seeking behavior in schools: Results from a normative study of adolescent attitudes and concerns about school-based interventions. In J. S. Owens (Chair), Factors that Influence Treatment Participation and Utilization: Parent, Youth, and School Perspectives. Symposium presentation for the Association for the Advancement of Behavior Therapy November 2004 Annual Conference, New Orleans, LA.

Alvarez, H.K., Owens, J.S., Evans, G.D., Fox, L.D., Gylys, J. (submitted). *Initiatives in Rural Mental Health Service Delivery: Advances in Clinical Practices for Children and Adults.* Panel discussion for the Association for the Advancement of Behavior Therapy November 2004 Annual Conference, New Orleans, LA.

Alvarez, H.K. (submitted). *Contextual Influences on the Use of School-Based Interventions for Aggressive Youth: Psychosocial Characteristics of the Classroom Teacher*. Poster presentation for the Association for the Advancement of Behavior Therapy November 2004 Annual Conference, New Orleans, LA.

Alvarez, H.K., Goring, J.C., Ollendick, T.H. (submitted). *The Moderating Role of Self Worth in Predicting School Dropouts*. Poster presentation for the Association for the Advancement of Behavior Therapy November 2004 Annual Conference, New Orleans, LA.

Goring, J.C., **Alvarez, H.K**., Ollendick, T.H. (2004). *The Phenomenology of Internalizing and Externalizing Problems in Children with Comorbid Anxiety and Aggression.* Poster presentation at the 23rd National Conference of the Anxiety Disorders Association of America, Miami, FL.

Goring, J.C., Whiting, E., **Alvarez, H.K**., Ollendick, T.H. (2004). *Family Characteristics of Youth with Comorbid Anxiety and Aggression.* Poster presentation at the 23rd National Conference of the Anxiety Disorders Association of America, Miami, FL.

Alvarez, H.K. (2003). *Behavior management in schools: When ice packs and bandages no longer heal the pain.* Invited workshop for the Maine School Nurses Association Annual Conference, Waterville, ME.

Alvarez, H.K., Ollendick, T.H. (2003). The role of parental and familial contextual factors on ratings of child externalizing problems. In A. De Los Reyes & L.M. Saavedra (Co-chairs) *Impact of Rater Discordance and Distortions on the Clinical Assessment of Child Psychopathology*. Symposium presentation accepted for the Association for the Advancement of Behavior Therapy November 2003 Annual Conference, Boston, MA.

Blier, H.K., Grills, A.E., Goring, J., Ollendick, T.H. (2002). *The phenomenology of anxiety in children with co-morbid anxious and aggressive problems*. Association for the Advancement of Behavior Therapy. Poster presentation at the Anxiety Disorders Special Interest Group Poster Exhibition, November 2002 Annual Conference, Reno, NV.

Blier, H.K., Grills, A.E., Ollendick, T.H. (2002). *The impact of distress and family dysfunction on maternal and paternal report of child psychopathology in the clinical setting*. Association for the Advancement of Behavior Therapy. Poster presentation at the November 2002 Annual Conference, Reno, NV.

Blier, H.K., Ollendick, T.H., Brazhnik, K., Seligman, L. (2002). *A longitudinal investigation of school dropout: early risk and protective factors.* Association for the Advancement of Behavior Therapy. Poster presentation at the November 2002 Annual Conference, Reno, NV.

Blier, H.K., Scarpa, A., Fox, L.D., Cooper, L.D. (2002*). School-based group treatment for aggressive adolescents: Long-term effects.* Poster symposium presentation at the 15th World Meeting of the International Society for Research on Aggression, Montreal, CA.

Blier, H.K., & Ollendick, T.H. (2002). *The prediction of aggressive peer victimization in adolescents: A Longitudinal study*. Poster symposium presentation at the 15th World Meeting of the International Society for Research on Aggression, Montreal, CA.

Blier, H.K., & Ollendick, T.H. (2002). *Psychosocial correlates of self-reported anxiety in adolescents: Results from a four-year school-based prospective study of adolescent functioning*. Poster presentation at the 2002 Virginia Tech Graduate Award Symposium.

Blier, H.K., & Ollendick, T.H. (2002). *Family environment and children's self-reported anxiety and depression: The independent contributions of parent and child characteristics*. Poster presentation at the 2002 Virginia Tech Graduate Award Symposium.

Grills, A.E., **Blier, H.K.**, Ollendick, T.H. (2002). *Reliability of the factor structure, internal consistency, and divergent validity of the Multidimensional Anxiety Scale for Children (MASC) in two community samples of children.* Poster presentation at the 2002 Virginia Tech Graduate Award Symposium.

Blier, H.K., Grills, A.E., Ollendick, T.H. (2002). *Psychosocial correlates of self-reported anxiety in adolescents: Results from a four-year school-based prospective study of adolescent functioning*. Poster presentation at the 22nd National Conference of the Anxiety Disorders Association of America, Austin, TX.

Blier, H.K., Grills, A.E., Ollendick, T.H. (2002). *Family environment and children's self-reported anxiety and depression: The independent contributions of parent and child characteristics*. Poster presentation at the 22nd National Conference of the Anxiety Disorders Association of America, Austin, TX.

Grills, A.E., **Blier, H.K.**, Ollendick, T.H. (2002). *The prediction of internalizing symptoms and victimization experiences in adolescents: A longitudinal study*. Poster presentation at the 22nd National Conference of the Anxiety Disorders Association of America, Austin, TX.

Grills, A.E., **Blier, H.K.**, Ollendick, T.H. (2002). *Reliability of the factor structure, internal consistency, and divergent validity of the Multidimensional Anxiety Scale for Children (MASC) in two community samples of children.* Poster presentation at the 22nd National Conference of the Anxiety Disorders Association of America, Austin, TX.

Grills, A.E., **Blier, H.K.**, Ollendick, T.H. (2001). *Parent-child agreement on ADIS anxiety and ADHD diagnoses*. Association for the Advancement of Behavior Therapy. Poster presentation at the November 2001 Annual Conference Special Interest Group Poster Exposition, Philadelphia, PA.

Blier, H.K., Fox, L.D., Scarpa-Friedman, A., Ollendick, T.H., Littleton, H., & Seligman, L. (2001). *School-based group intervention for aggressive adolescents: Treatment outcomes and implications.* Association for the Advancement of Behavior Therapy. Poster presentation at the November 2001 Annual Conference, Philadelphia, PA.

Blier, H.K., Greene, R.W., Dadds, M.R., Johnston, C., & McMahon, R.J. (2001). *Oppositional defiant disorder: Diagnostic conceptualizations and treatment applications.* Association for the Advancement of Behavior Therapy. Panel Discussion presented at the July 2001 AABT World Congress of Behavioral and Cognitive Therapies, Vancouver, B.C.

Blier, H.K., Fox, L.D., Scarpa-Friedman, A., & Littleton, H. (2001). *School-based group treatment of antisocial & aggressive youth: Outcomes and applications*. Association for the Advancement of Behavior Therapy. Poster presented at the July 2001 AABT World Congress of Behavioral and Cognitive Therapies, Vancouver, B.C.

Blier, H.K., Ollendick, T.H., Seligman, L. (2001). *A longitudinal investigation of school dropout risk: Implications for prediction and prevention*. Association for the Advancement of Behavior Therapy. Poster presented at the July 2001 AABT World Congress of Behavioral and Cognitive Therapies, Vancouver, B.C.

Klein, W.M., **Blier, H.K.** (1997). *I'm still better than my peers: Coping with undesirable social comparison information regarding personal risk*. Invited paper at the May 1997 American Psychological Society meeting, Washington D.C.

Blier, H.K., Klein, W.M. (1997). *Good feelings, hard data, and the 'it won't happen to me' effect*. Paper Presentation at the April 1997 Maine Psychological Association Conference, Bangor, Maine.

Blier, H.K., Bissoon, C. (1997). *How strange is the strange situation? A review of relevant research*. Paper Presentation at the April 1997 Maine Psychological Association Conference, Bangor, Maine.

Blier, H.K., Bissoon, C. (1997). *A review of research which employs the strange situation attachment assessment*. April 1997 Luncheon Symposium at Colby College Department of Psychology, Waterville, Maine.

Blier, H.K. (1996). *Antisocial behavior and classroom management: Strategies for teachers of adolescents*. Invited presentation for educators of Maine School Administrative Districts #23, #38, Carmel, Maine.

Blier, H.K., Klein, W.M. (1996). *Good feelings, hard data, and the 'it won't happen to me' effect*. October 1996 Luncheon Symposium at Colby College Department of Psychology, Waterville, Maine.

Awards and Grants

2003 Melissa Institute Research Award
Focus: Annual competitive award designated to recognize predoctoral researchers for excellence in research related to violence and violence prevention. Source of funding: Melissa Institute for Violence and Violence Prevention, Don Meichenbaum, PhD, Research Director.

2003 Galper Research Award
Focus: Annual competitive award designated to recognize student researchers for excellence in research and research activity. Source of funding: Virginia Tech.

2003 Dissertation Research Grant
Focus: Funding to support costs associated with dissertation research and subject reimursement. Source of funding: Department of Psychology, Thomas H. Ollendick, Ph.D., Child Study Center Director.

2001 Galper Research Award
Focus: Annual competitive award designated to recognize student researchers for excellence in research and research activity. Source of funding: Virginia Tech.

1997 Dean of Faculty Student Research Grant
Focus: Competitive grant designated to recognize undergraduate student researchers for excellence in research and research activity. Source of funding: Colby College Dean of Faculty.

1993 Travelli Scholar Award for Distinction in Sciences and Humanities
Focus: Award for undergraduate students who demonstrate academic excellence, extracurricular participation, and citizenship. Source of funding: Colby College; Charles A. Travelli Foundation.

Instructional Competencies

Introductory Psychology	Psychological Assessment
Abnormal Psychology	Clinical Practicum
Psychological Disorders of Children	Behavioral assessment and management in applied settings
Clinical Child Psychology	

Teaching/Research/Clinical Interests

School-based Assessment and Treatment	Child Psychopathology
Clinical Psychology in Rural Settings	Clinical Psychology
Assessment and Evaluation	Advanced Child Psychotherapy
Child Behavior Therapy	Developmental Psychopathology

Editorial Activities

2001-present	Manuscript Reviewer, Journal of Consulting and Clinical Psychology
1999-2001	Manuscript Reviewer, Journal of Clinical Child Psychology

References

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