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Teacher Attributions for Behavior Disorders and Their Relationship to Expectations and Self-Efficacy

by

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Abstract

Student behavior disorders have emerged as a significant concern within the school environment, having been identified as a major source of occupational stress for teachers and a leading contributor to stress and burnout. Research has suggested that neither general education nor special education teachers feel adequately prepared to address these students' needs in the classroom environment, and literature highlights calls to improve teacher efficacy and education in this domain. Considerable research has suggested that teachers' attributions for learning problems are influential in nurturing teacher expectations and self-efficacy in the classroom, however there is a dearth of research exploring the association between these variables in the area of student behavior disorders. In this study of 207 practicing teachers, the influence of teacher attributions for behavior disorders on teacher expectations for classroom-based intervention and teacher self-efficacy was explored. Hierarchical linear regression results indicated that stability attributions about the causes of behavior disorders predict teacher beliefs about their self-efficacy with students who exhibit these disorders through teacher expectations for classroom-based intervention. Teachers' free responses were also examined for common themes, providing context to the data, and suggesting areas for future research focus. The results of this study support increased pre-service and in-service teacher education in the area of student behavior disorders, and suggest that attribution education may be a critical component of teacher preparation in this domain.

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Teacher Attributions for Behavior Disorders and their Relationship to Expectations and Self-Efficacy

Children's behavior disorders are emerging as particularly challenging, disruptive, and dangerous within the school setting. Problems of conduct are the most stable and common form of child psychiatric disorder (Frick, 1998; Loeber, Burke, Lahey, Winters, & Zera, 2000; Robins, 1991), and children exhibiting these disorders have the poorest outcomes of all students (Gable, 2004). The incidence of children diagnosed with behavior disorders is increasing in schools (Henderson, Klein, Gonzalez, & Bradley, 2005; Sawka, McCurdy, & Manella, 2002; Wishart & Jahnukainen, 2010), and intervention with these students has been identified as a major source of stress for teachers (Brouwers & Tomic, 2000; Male, 2003). In fact, according to the 36th annual Phi Delta Kappa/Gallup Poll, educators rank violence and lack of discipline, factors associated with behavior disorders, as their two greatest concerns (Rose & Gallup, 2004). Theoretically and pragmatically, exploration of this topic is timely and potentially significant for improving outcomes for teachers and students.

Recent advances in understanding the development, continuity, and discontinuity of childhood behavior disorders have emphasized the central role of the child's developing cognitions (Boxer & Dubow, 2002; Guerra & Huesmann, 2004), and the active role environmental factors play in supporting the development of cognitive structures that guide social behavior. Within the school

ecology, teaching practices adopted by individual teachers have the potential to significantly impact the cognitive structures of children in their care. As such, the importance of teachers and schools in supporting, maintaining, or arresting the developmental progression of behavior disorders has received increasing interest in the literature (Brooks & Goldstein, 2008; Cook, Landrum, Tankersley, & Kauffman, 2003; Guerra, Boxer, & Kim, 2005; Hastings, 2005).

According to many researchers, teacher-student relationships can be conceptualized as dyadic systems that are not only affected by the actual behaviors and qualities of each individual, but are also influenced by each individual's representation of the relationship (Pianta, Hamre, & Stuhlman, 2003). Individual teachers each possess a distinct set of skills and beliefs that influence their interactions with others, and teaching practices have been shown to vary based upon teacher and student characteristics (Tournaki & Podell, 2005), as well as relationship factors occurring within the teacher-student dyad (Guerra, Boxer, & Kim, 2005). For teachers working with students who exhibit behavior disorders, teacher beliefs may be particularly salient considering the emotional reactions (sadness, anger, fear, and disgust), and high levels of stress and burnout that have been observed in staff who work with individuals exhibiting challenging behaviors (Bromley & Emerson, 1995; Male, 2003; Mitchell & Hastings, 2001). Understanding teacher beliefs for this population becomes even more critical when considering research that has demonstrated that knowledge and skills alone cannot predict a teacher's use of an intervention proven to be effective. Rather, consideration of the compatibility of an intervention with a teacher's beliefs and

expectations is an essential factor in promoting a full understanding of a teacher's willingness and likelihood to implement the intervention (Greene, 1995). Two types of teacher beliefs that may be especially important are beliefs about the causes of behavior disorders, and teachers' self-efficacy beliefs.

In response to the understanding that adult beliefs are critical in the adult-child relationship, researchers have attempted to use attribution theory (Heider, 1958; Weiner; 1980, 1985, 1986) to understand how attributions may affect adult responses to children's challenging behavior. A review of this literature highlights extensive empirical evidence that parent and care staff attributions for child behavior problems are critical in effective intervention for behavior disorders (Dagnan, Trower, & Smith, 1998; Hoza, Owens, Pelham, Swanson, Connors, Arnold, & Kraemer, 2000; Johnston & Freeman, 2002; Reimers, Wacker, Derby, & Cooper, 1995; Weigel, Langdon, Collins, & O'Brien, 2006). Furthermore, attributions have been associated with self-reported optimism or expectations about change (Weiner, 1985, 2010; Dagnan et al., 1998), which are variables that are conceptually and empirically related to self-efficacy (Bandura, 1997). Finally, staff knowledge and experience have been found to affect the relationship between attributions, expectations, and behavior (Hastings, Tombs, Monzani, & Boulton, 2003; Oliver, Hall, Hales, & Head, 1996).

Despite this evidence, empirical examination of teacher attributions about behavior disorders, and their effects on teachers' expectations and self-efficacy, is conspicuously absent from research. Thus, current understandings of how adult attributions affect behavior towards students who exhibit behavior disorders may

not generalize to the educational environment, and preclude a complete understanding of the cognitions and beliefs that are related to expectations for success and feelings of self-efficacy in intervening with this population of students.

Statement of Purpose

The purpose of this study was to examine the relationship between causal attributions that teachers hold for student behavior disorders and teacher beliefs about their self-efficacy with these students. A model was proposed linking three variables that were hypothesized to be crucial in a teacher's decision making process when intervening with students exhibiting behavior disorders: causality attributions (focusing on the locus dimension), teacher expectations, and teacher self-efficacy. This model is based upon attribution theory (Weiner, 1985), which suggests that teachers are motivated to understand the reasons for student behavior, in part, because they believe that such an understanding will help to guide their efforts in the classroom. The type of causal attribution held was predicted to be an important determinant of the teacher's expectations for intervention success, and his self-efficacy beliefs with regard to teaching the student who exhibits a behavior disorder. Additionally, the study attempted to investigate the impact that experience, teaching level, and amount and type of teacher education may have on the relationship between attributions, expectations and self-efficacy.

Literature Review

This review of the literature will begin with an exploration of the effects of student behavior disorders on schools. Specifically, the effects these disorders have on the students exhibiting behavior disorders, the other students in the school environment, and teachers in the schools, will be explored. This examination will lead into a discussion of the role of schools in interventions for students who exhibit behavior disorders. Having recognized that the school setting may be the logical base for effective treatment, the relevance of teacher preparation and teacher competence in addressing student behavior disorders is highlighted. Extensive empirical evidence that parental attributions for child behavior problems are critical in parent feelings of self-efficacy and effective intervention, suggests that empirical examination of teacher attributions and their effects on teachers' self-efficacy is warranted. A review of the research base on teacher self-efficacy and its relationship to teacher competence will be followed by an exploration of attribution theory and its relationship to teacher self-efficacy. This exploration will include the proposal that teachers' causal attributions for behavior disorders may lead them to develop expectations regarding the amenability of the behaviors to classroom-based interventions. These expectations, will in turn, lead to beliefs about self-efficacy regarding educating these students. In other words, it is hypothesized that teachers who expect that they can influence outcomes will have stronger self-efficacy beliefs than teachers who feel they have little or no control over outcomes. In its entirety, the literature review will attempt to explore and logically link these three variables in order to

contribute to a richer understanding of the way teachers perceive behavior problems, and subsequently formulate a motivational stance towards intervention. The literature review will conclude with a summary that will lead into specific research questions addressed in the study.

Context: Effects of Behavior Disorders in Schools

Effects on students exhibiting behavior disorders. Studies have consistently demonstrated that a childhood behavior disorder has a poor long-term prognosis and is a powerful risk factor for substantial problems later in life (Kazdin, 2001). Richman, Stevenson, and Graham (as cited in Webster-Stratten, 1993) found that 67% of children with externalizing problems at age 3 continued to be aggressive at age 8. Kazdin (as cited in Walker et al., 1998) stated that children manifesting severe antisocial behavior patterns must experience successful intervention by the end of third grade (age 8) or the disorder should then be regarded as chronic. Fergussen and Lynskey (1998) extended this developmental progression by noting that children with conduct problems at age 8 had elevated rates of antisocial behavior at age 18. Overall, research clearly illustrates that childhood conduct problems exhibited between the ages of 7-9 years are sensitive predictors of adult criminality and adverse outcomes across all domains of functioning (Fergussen, Horwood, & Ridder, 2005; Ruchkin, Koposov, Vermeiren, & Schwab-Stone, 2003).

According to a recent six-site cross-national study, this is particularly true for externalizing behaviors such as aggression. Physical aggression exhibited during the elementary school years increased the risk for continued physical

violence as well as other nonviolent forms of delinquency (Brody, 2003). Possibly most disturbing is the fact that literature clearly highlights powerful evidence that aggressive children follow a developmental pathway in which the antisocial acts they engage in become progressively more serious, quantitatively and qualitatively, over time (American Psychiatric Association, 2000; Loeber, Lacourse, & Homish, 2005; Scarpa & Raine, 2004; Toupin, Dery, Pauze, Mercier, & Fortin, 2000; Walker et al., 1998). This developmental trajectory clearly poses serious challenges for intervention and treatment.

With reference to the school environment in particular, literature suggests that a lack of effective intervention in the elementary school years may have important developmental consequences for future maladaptive behaviors (Fergussen et al., 2005; Greer-Chase, Rhodes, & Kellan, 2002). The cognitive-ecological developmental model clearly implies a point in development after which targeted strategies may show less effectiveness. For the child who exhibits behavior disorders, this point has been identified as middle childhood (7-10 years), when childrens' social cognitions begin to guide their social behavior and become more resistant to change (Huesmann, 1998; Huesmann & Guerra, 1997). An increasing body of literature further suggests that childhood behavior disorders may negatively impact the child's academic, as well as social/emotional development, by having a deleterious effect on academic performance. Reading difficulties and language delays, in particular, are associated with behavior disorders (Short & Shapiro, 1993; Webster-Stratten, 1993). The bidirectional nature of the relationship between academic deficits and behavior disorders make

it unclear as to whether one problem precedes or follows the other, however an increasing body of research suggests that childrens' social competence provides the foundation for school readiness and academic achievement (Blair, 2002; Denham & Weissberg, 2004; Raver, 2004).

Effects of behavior disorders on mainstream students. The externalization of offender behavior visibly highlights the crucial need for intervention with students exhibiting behavior disorders. However, health and developmental complications arising from experiencing or witnessing behavior disorders, although appearing more subtle, may be equally, or possibly more, devastating. Through recent research it has become increasingly clear that the cumulative effect of experiences shapes each individual nervous system to meet the demands of its unique environment. As such, the relationship between behavior disorders and neurophysiology may ultimately create negative accommodations in the developmental potential of observers and victims of children demonstrating these behaviors (Niehoff, 1999; Tremblay & Cote, 2005; Tremblay & Nagin, 2005).

Research has established that a safe school environment is critical in promoting resilience (Nickolite & Doll, 2008), and positive social and academic development (Greenfield, 2005; Meyer, 2006; Oehlberg, 2006). Even a brief stressful experience has the potential to impede the ability to access even well established long-term memories (McGaugh, 2003), clearly impacting the potential for learning within the school environment. Furthermore, empirical research in the cognitive and neurosciences indicates that motivation and emotion are critical

components of intellectual development (Kuhn, 2001; Sternberg, 1999), and that these dispositions are highly dependent upon the adaptive value of the behavior for the individual (Adolphs & Damasio, 2001). Thus, it is conceivable to hypothesize that, for children exposed to repeated disruptive behaviors within the school environment, physical and emotional safety will take precedence over intellectual development.

Over the longer term, uncontrollable stressors and repeated stress tend to have prolonged effects on noradrenergic terminals, and there is growing evidence that early stressful experiences predispose affected individuals to a variety of disorders including hostility, anxiety, depression, suicide, substance abuse, and systemic illness (McEwen & Seeman, 2003). This has been supported in the literature on bullying, which has demonstrated long term negative effects of bullying extending into adulthood (Staubli & Killias, 2011). Ultimately, neural development, intellectual capacity, social competence, and emotional health may be seriously compromised for students who are exposed to behavior disorders within the school setting.

A review of the literature did not identify any studies that specifically explore the effects of 'behavior disorders' on other students in the classroom and school environment. However, there exists an extensive research base on the effects of bullying, a type of behavior disorder and the most prevalent form of youth violence (Smokowski & Kopasz, 2005). Specifically, among victims of bullying, higher rates of depression, anxiety, and psychosomatic complaints, as well as lower levels of academic achievement, self-esteem, and social functioning

have been well-documented (Brockenbrough, Cornell, & Loper, 2002; Fekkes, Pijpers, & Verloove-Vanhorick, 2004; Kaltiala-Heino, Rimpela, & Rimpela, 2000). Of particular interest is research that has demonstrated that simply observing bullying at school predicted mental health risks over and above that predicted for those students who were directly involved in the bullying incidents (Rivers, Poteat, Noret, & Ashurst, 2009).

This has been reflected in the literature on behavior disorders, as teachers have expressed the belief that the rights of students with behavior disorders are protected at the expense of other students and teachers in the educational environment (Bon, Faircloth, & Letendre, 2006). Overall, teachers have suggested that they spend too much time handling student misbehavior (Houghton, Wheldall, & Merritt, 1988), and that students with behavior disorders infringe upon the rights of the teachers and the other students in the classroom/school (Bon et al., 2006). Thus, it is plausible to suggest that students demonstrating behavior disorders may seriously undermine the intellectual, psychological, and neurophysiological development of all children in the classroom, through diversion of teacher time and school resources, combined with the devastating effect of repeated stressful experiences on children (Davis, 2000; Hunter, 2003; McEwen & Seeman, 2003; Niehoff, 1999).

In summary, it appears that, for the child demonstrating behavioral disorders, the expression of negative behaviors leads to a litany of antisocial outcomes. For the child who witnesses behavior disorders, either directly or vicariously, equally devastating psychological, sociological, and physiological

manifestations are possible. Regardless of perspective, it is clear that establishment of effective interventions is essential for these children, the individuals with whom they interact, and, ultimately, the communities in which they reside.

Effects of behavior disorders on teachers. Recent educational initiatives exhibit an impetus towards inclusion of all students (Alberta Education, 2011; Wagner et al., 2006); however, the application of these provisions to students with behavior disorders has had a significant effect on the level of occupational stress reported by teachers (Nelson, Maculan, Roberts, & Ohlund, 2001). Regular education teachers tend to view their classroom as an inappropriate placement for students with behavior problems (Shumm & Vaughn, 1992) and are less willing to tolerate pupils with challenging behavior than special education teachers (Chazan, 1994). Teachers report that they spend too much time handling student misbehavior (Houghton, Wheldell, & Merrit, 1998), and dealing with these behaviors is a major source of stress (Brouwers & Tomic, 2000) and a leading contributor to burnout (Bibou-Nakou, Stogiannidou, & Kiosseoglou, 1999). These effects are reported by teachers in both inclusive settings and congregated (segregated) settings. In congregated settings, teachers of students who exhibit behavior disorders have a high attrition rate and are the most likely of all special education teachers to leave the field (Henderson et al., 2005). Cheney and Barringer (1995) reported that 30-50% of these teachers leave their positions within three years, possibly limiting their ability to develop and refine effective interventions. According to current literature, teachers who did leave the field

"felt unsupported, unprepared, overwhelmed by student needs or job responsibilities, disempowered, or all of these" (Brownell, Smith, McNellis, & Miller, 1997, as cited in Henderson et al., 2005, p. 4).

In general, teacher attitudes and beliefs about working with students who exhibit behavior disorders tend to be negative. Research illustrates that teacher perceptions of the specific disability, and beliefs about the demands the student will place on them, affect teacher attitudes towards integration (Soodak & Podell, 1998). Of particular relevance are the findings that, in general, educators tend to be resistant toward inclusion of students with behavior disorders (Soodak & Podell, 1998). Research highlights a number of factors that appear to contribute to this belief. An increase in the number of behavior disordered students, negative attitudes toward these students, the perception of a dual system of discipline favoring behavior disordered students, concerns about the rights of the general school population, the adoption of full inclusion policies, and a lack of training in special education have been cited as critical factors in the complex problem faced by educators in dealing with this student population (Bon et al., 2006).

The Role of Schools in Interventions for Behavior Disorders

Despite discouraging statistics, literature suggests that schools may be the first social agency in the position to identify and intervene with children experiencing behavior difficulties (Brown, D'Emidio-Caston, & Benard, 2001), and the most logical and promising base for effective treatment and coordination of services. School settings provide rich opportunities for observing social interaction patterns and experimenting with social consequences for behavior.

Through observational learning, modeling, and reinforcement, disordered behavior may be extinguished or, conversely, provided the opportunity to generalize to other contexts. The school ecology inherently provides multiple sources of influence on student cognition and behaviors, including teacher interaction, peer interaction, and the potential for family involvement, increasing the possibility of multi-context support (Guerra et al., 2005; Kazdin, 2001). In recognizing the important role schools can play in interventions for behavior disorders, teacher education, teacher competence, and teacher self-efficacy emerge as critical areas for empirical exploration.

Teacher Preparation and Teacher Competence Regarding Students who Exhibit Behavior Disorders

Implications for students. Children exhibiting behavior disorders, and general education students exposed to the disorders, may be negatively affected by limited teacher competence. Although other variables are associated with behavior disorders, caregiver behavior has been proposed as a key factor in the development and maintenance of behavior problems (Fergussen & Lynskey, 1998; Hastings, 2005; Kazdin, 2001; Maughan, 2001).

Numerous studies have illustrated that the capacity to include and intervene with these students effectively is based on the knowledge, skills, and strategies of the teacher (Cheney & Barringer, 1995; Wehby, Symons, Canale, & Go, 1998). Preparing teachers to effectively program for children exhibiting behavior disorders is crucial (Cooley-Nichols, 2004) however, teachers generally report feeling inadequately trained to manage these students (Buchanen, Gueldner, Tran,

& Merrell, 2000; Justice & Espinoza, 2007). Education specific to behavior disorders has been reported to be the most common shortcoming in teacher preparation programs (Wagner et al., 2006), and neither general nor special education teachers feel competent in this domain (Sawka, McCurdy, & Mannella, 2002).

Although there has been considerable research on best practices (Gable, 2004), teachers are generally pessimistic about research and its applicability to real classroom environments (Boardman, Arguelles, Baughn, Hughes, & Klingner, 2005). In fact, literature suggests that teachers generally rate more informal sources of information, such as their own colleagues or workshops, as more useable and trustworthy than sources of research-based information, such as university courses or professional journals (Landrum, Cook, Tankersley, & Fitzgerald, 2002; Male, 2003). Literature confirms that practice in classrooms is reflective of this fact (Cheney & Barringer, 1995; Gibb, Allred, Ingram, Young, & Egan, 1999; Shapiro, Miller, Sawka, Bardill, & Handler, 1999). Identified best practices in the area of behavior disorders are not observed regularly in classrooms (Arcia, Frank, Sanchez-LaCay, & Fernandez, 2000; Bibou-Nakou, Kiosseoglou, & Stogiannidou, 2000; Cook, Landrum, Tankersley, & Kaufmann, 2003; Wehby et al., 1998) or included in teacher preparation (Cooley-Nichols, 2004). Literature suggests that current interventions are, at best, merely management tools exhibiting limited long term benefits. Reactive intervention, coercive interactions, inconsistent discipline, and low rates of positive interaction often characterize management in both general and segregated classrooms.

Unfortunately, these factors mirror the precise factors in the home that are identified as causal factors in the development of conduct disorders (Kamps & Tankersly, 1996). According to the literature, teachers appear to incorrectly implement procedures (Martin & Pear, 2003), have a limited repertoire of behavior management strategies (Arcia et al. 2000; Bibou-Nakou et al., 2000) and a limited understanding of behavioral principles necessary to design and implement an effective intervention (Arcia et al., 2000). It might be important to also note that little research evidence is incorporated into policy decision-making at the school level. Waddell, Lomas, Offord, and Giacomini (2001) label this the "policy-research gap", and believe that this is an important community mental health problem in Canada. They note that policy making regarding interventions for behavior disorders in Canada is guided more by institutional values and structures than by research evidence.

At the present time, literature clearly suggests that teachers and schools are not well equipped to address student behavior disorders (Hunter, 2003) and continue to utilize risk-based, tertiary interventions that have been demonstrated to have limited effectiveness (Baumeister, Smart, & Boden, 1996; Gresham, 1998; Guerra et al., 2005; Hunter, 2003: McConaughy & Kay, 1998; Smokowski & Kopasz, 2005). There have been calls within the educational and psychological communities for schools to alter their current approach to management of these students (Ducharme & Schecter, 2011; Guerra et al., 2005) and to improve teacher preparation with respect to behavior disorders (Andreou & Rapti, 2010; Bon et.al,

2006; Cook et al., 2003; Emmer & Stough, 2001; Hunter, 2003; Mavropoulou & Padeliadu, 2002).

In summary, philosophy and practice in schools appears to ignore current research and evidence-based practices related to working with students with behavior disorders (Hunter, 2003; Waddell et al., 2001), neglecting the factors critical in the developmental progression of behavior disorders and potentially creating incubators for future delinquent and antisocial behavior. The most common school interventions including risk-based tertiary programs, and referrals to clinical agencies, clearly reflect this opinion. Unfortunately, clinical and tertiary school interventions have not proven effective (Hunter, 2003; Kazdin, 2001), and are neither time nor cost effective (Hunter, 2003). According to researchers, agreement on a sound conceptual framework (Gable, 2004) that would effectively and parsimoniously operationalize the research base would assist teacher educators and teachers in building quality programs that would benefit both students exhibiting behavior disorders and general education students (Boardman et al., 2005). It is important to note that most practices that prove effective in special education have a larger effect when used with general education students (Vaugh, Gersten, & Chard, 2000).

Legal implications of limited staff competence. Staff competence regarding behavior disorders in the school setting is important from both a child development perspective, and a legal perspective. When considering programming for students with these disorders, it is crucial to consider the entire school ecology when recommending and employing interventions. Canadian and

American law suggests that schools have a general duty to protect students from harm. To the extent that a school/school employee is aware that a child poses a potential risk of harm to him/herself or others, the standard of care is increased, and schools are required to ensure that the placement is appropriate for the client, and does not put the client, or other individuals in the placement, at risk. For students exhibiting behavior disorders, and the teachers who educate them, these guidelines may be particularly salient (Bettenhausen, 2002; Bon et al., 2006).

The general public has become increasingly aware of the importance of the school social environment in the development of children, and attention to this topic has been notable within the media. Litigation over the past decade has reflected some level of incompetence by educators who appear to possess inadequate preparation in behavior management (Katsiyannis, Ellenburg, Acton, & Lock, 2000).

> Walter Olsen, a litigation expert and senior fellow at the Manhattan Institute, asserted that schools have been sued for discrimination for such offences as barring children from sports teams, but increasingly, he is seeing teachers being sued for classroom management style, even at schools like Montessori, where there are no textbooks or grades and pupils work at their own pace on self-directed projects. (Bielski, 2008)

When schools/school boards are aware that students may pose a risk to themselves or others, it is essential that teachers are provided with preparation that ensures that they are appropriately equipped to deal with these students, and that schools themselves have assumed appropriate duty of care for student placements,

prevention of harassment, and responsibility for student violence (Bon et al. 2006).

Implications for teacher preparation. Researchers have asserted that education specific to behavior problems is critical for teacher preparation (Andreou & Rapti, 2010; Bon et al., 2006; Mavropoulou & Padeliadu, 2002). Enhancement of behavior management skills for all teachers supports current thinking, which recognizes that children's behavioral and emotional concerns are not remediated by short term interventions or programs, removed from the context of their day to day life (Garbarino, 1999; Hunter, 2003; Jacobs & Wachs, 2002; Kazdin, 2001). Cognitive scientists confirm that the teaching of skills in hypothetical contexts (such as tertiary school or clinical interventions) does not encourage skill development across contexts, nor allow for researchers to accurately estimate successful strategy use (Barnett & Ceci, 2005; Hunter, 2003). They assert that a modality match between training and transfer contexts is critical in encouraging generalizability of skills, and moderators of such transfer include social, functional, physical, and temporal contexts (Barnett & Ceci, 2005). Effective teacher preparation will allow teachers to implement interventions that promote the development of holistic competencies over time and in a real-world environment, as opposed to teaching isolated skills in a context removed from the child's day to day social interactions.

Despite widespread acceptance of ecological models of child development (Bronfenbrenner, 1979), funding and intervention for behavior disorders currently focuses on a risk/deficit model that reflects categorization based on a medical

perspective (Alberta Education, 2011; American Psychiatric Association, 2000; Wishart & Jahnukainen, 2010). The Diagnostic and Statistical Manual – Fourth Edition (American Psychiatric Association, 2000) establishes criteria for behavior disorders of individual children, and comprehensive individual assessment is typically conducted and applied to these criteria to determine the funding and types of interventions that may be available to the child in the school environment. Therefore, contrary to the ecological perspective, the focus of assessment and intervention is on the individual child, rather than other components of the ecology (Wishart and Jahnukainen, 2010). Literature suggests that this model pathologizes children's behavior, with the intent of providing service (Jacobs & Wachs, 2002), and may inherently suggest meanings and a theoretical framework that connotes difficulties as originating in the child (internal attributions), when, in fact, literature clearly identifies environmental factors (external attributions) as being the critical predisposing, precipitating, and perpetuating factors in the development and progression of behavior disorders (Cole, Teti & Zahn-Waxler, 2003; Kazdin, 2001; Marmorstein & Iacono, 2004; Maughan, 2001). Further, disaggregated knowledge and the focus on the risk/deficit model have led to a proliferation of programs and the creation of an overwhelming array of strategies for teachers to learn and implement. Researchers have suggested that this 'one child at a time' framework is impossible to maintain, and that a focus on fewer strategies that are effective with a larger population would be a more effective approach (Ducharme & Shecter, 2011; Hunter, 2003; Sindelar & Brownell, 2001).

It has been suggested that an alternative teacher preparation model would be a primary intervention, or universal approach (Hunter, 2003). This approach emphasizes prevention and the teaching of evidence-based methods that are applied universally to all children to strengthen positive behavior (Ducharme & Shecter, 2003; Emmer & Stough, 2001; Hunter, 2003; Suldo & Shaffer, 2008). Within a primary/universal approach to intervention, patterns that emerge with respect to emotional/behavioral needs, would be presumed to represent systemic phenomena, and could be addressed with systemic responses. The focus would then become psychological wellness for all children, rather than a focus on particular children within the classroom setting. According to the literature, primary/universal interventions are deemed as helpful for most children, and are regarded as good teaching practice in general (Emmer & Stough, 2001; Mulligan, 2001; Nickolite & Doll, 2008).

Of particular interest regarding implications of altering teacher preparation to focus more on a primary/universal intervention approach, is recent research that suggests that an absence of behavioral symptoms does not indicate wellness or life satisfaction. In their study related to a dual-factor model of mental health, Suldo and Shaffer (2008) found that approximately half of their high psychopathology group reported average to high levels of subjective well-being (life satisfaction), whereas 13% of their sample without symptoms of mental illness reported low life satisfaction, infrequent positive emotions, and frequent negative emotions. Continued reliance on a risk/deficit approach to teacher education and student intervention, may effectively ignore the multiple conditions

on which outcomes for all students are likely to depend, might engender a complicated intervention system that is hard to maintain, and might prevent intervention with students who do not visibly demonstrate behavioral signs of emotional disturbance or demonstrate symptoms that are subclinical.

In summary, research highlights strong evidence that behavior disorders in schools present serious problems that affect the entire school population. At the present time, schools are not well equipped to address these problems (Hunter, 2003). Teachers exhibit a poor understanding of behavioral principles, a limited repertoire of behavior management strategies (Arcia et al., 2000; Bibou-Nakou et al., 2000; Cook et al., 2003; Wehby et al., 1998), and continue to utilize risk-based, tertiary and reactive interventions that have been demonstrated to have limited effectiveness (Baumeister et al., 1996; Clunies-Ross, Little, & Kienhuis, 2008; Gresham, 1998; Guerra et al., 2005; McConaughy & Kay, 1998; Quinn, Kavale, & Mathur, 1999).

In the move towards more effective school-based intervention for students who exhibit behavior disorders, a review of literature highlights evidence that teacher attributions for behavior disorders, self-efficacy beliefs, and attitudes have a significant relationship with teacher choice of intervention (Andreou & Rapti, 2010). In turn, literature suggests that these beliefs may ultimately impact student behaviors in the classroom (Babad, Inbar, & Rosenthal, 1982; Guerro et al, 2005; Hughes, Cavell, & Willson, 2001). For children with behavior disorders, teachers are potent socializing agents, affecting both the behavior of the offending child and peer reactions to behavior (Chang, 2003; Guerra et al., 2005; Henry, Guerra,

Huesmann, Tolan, Van Acker, & Eron, 2000), which can further support or extinguish behaviors. In order to develop a more comprehensive understanding of the teacher-student relationship in the area of childhood behavior disorders, a review of the literature on teacher self-efficacy and teacher attributions follows.

Teacher Self-Efficacy and Its Relationship to Teacher Competence

Self-Efficacy. The construct of self-efficacy is drawn from Bandura's social cognitive theory. Perceived self-efficacy refers to personal control of actions, or agency, and portrays an individual's assessment of his capability to attain a desired level of performance in a particular endeavor (Bandura, 1997). According to Bandura (1997), self-efficacy may influence goals, motivations, and the way in which personal explanations (such as causal attributions) influence future behavior. Bandura considers perceived self-efficacy to be an important mediator between an individual's knowledge/skills and his exhibited behavior. He hypothesized that a strong sense of personal efficacy is related to better health, higher achievement, and better social integration. Further, he asserted that expectations of self-efficacy determine the choice of actions that will be initiated, as well as the corresponding motivation, effort, and resilience the individual will exhibit in the face of adversity (Bandura, 1997, 2012). Research in the educational domain confirms that individuals pursue activities in which they feel they will be competent, and avoid situations in which they doubt their capability to perform successfully (Pajares, 1992).

Research suggests that self-efficacy impacts the ways people think, feel, and act (Bandura, 1997, 2012). Low self-efficacy is associated with helplessness,

anxiety, depression, low self-esteem, low motivation, and pessimistic thinking. People with high self-efficacy, on the other hand, choose to perform more challenging tasks, set higher goals, demonstrate increased persistence, exert increased effort, and recover more quickly from setbacks. According to Bandura, self-efficacy exists as an operative construct, meaning that the cognition is proximal to the critical behavior and, therefore, is a good predictor of actual behavior (Bandura, 1997).

Teacher self-efficacy. Teacher self-efficacy is a teacher's belief in her capabilities to elicit desired outcomes in student learning, engagement, and behavior, even among students who are challenging or unmotivated (Bandura, 1977). According to a large body of empirical research, teacher self-efficacy is one of the few teacher characteristics that consistently relates to teacher competence, effort, goal-setting, persistence (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998; Woolfolk & Hoy, 1990), job stress, and job satisfaction (Betoret, 2006).

Ultimately, teacher self-efficacy is associated with student outcomes. Teacher self-efficacy has been related to students' sense of self-efficacy (Anderson, Greene, & Loewen, 1988), motivation (Midgley, Feldlaufer, & Eccles, 1989), and achievement (Moore & Essleman, 1992; Ross, 1998). Low self-efficacy teachers tend to predict poorer academic outcomes for students who demonstrate characteristics that impede teaching and learning, and tend to base their predictions on a single characteristic (Tournaki & Podell, 2005). In contrast, teachers exhibiting high self-efficacy demonstrate greater levels of planning and

organization (Allinder, 1994), show an increased willingness to experiment with new methods to meet the needs of students (Stein & Wang, 1988), are less critical of students (Ashton & Webb, 1986), work longer with struggling students, are more resilient (Gibson & Dembo, 1984; Ross, 1992; Tournaki & Podell, 2005), demonstrate increased willingness to take responsibility for meeting the needs of struggling students (Soodak & Podell, 1994), are less inclined to refer a student to special education (Podell & Soodak, 1993), exhibit greater enthusiasm for teaching (Allinder, 1994), make more positive predictions of students' academic success (Tournaki & Podell, 2005), demonstrate greater commitment to teaching, and are more likely to remain in the profession (Burley, Hall, Villeme, & Brockmeier, 1991; Coladarci, 1992).

Teacher self-efficacy and behavior disorders. According to Bandura (1977, 2012), self-efficacy is understood to be domain specific, and should be conceptualized in a situation specific manner. Consequently, teachers may hold different self-efficacy beliefs in different domains of teaching. As such, researchers have suggested that examination of both general teacher efficacy, and domain-specific efficacy will help ensure the relevance of research for theory and practice (Klassen, Tze, Betts, & Gordon, 2011). To date, empirical exploration of teacher efficacy has focused primarily on general teacher efficacy and self-efficacy related to academic outcomes, however teacher self-efficacy in the area of behavior disorders is emerging as a critical area for researchers, teacher educators, and practitioners. It is important to note that although some domain-specific research may not be relevant for all teachers, the movement towards

inclusion suggests that research specific to the behavior disorder domain may be applicable to teacher practice in a variety of educational settings.

A review of the existing literature specific to behavior disorders, suggests that teachers with strong perceptions of self-efficacy regarding classroom management demonstrate less custodial perspectives about student control (Woolfolk, Rosoff, & Hoy, 1990) and employ more positive behavior management strategies (Emmer & Hickman, 1991). Furthermore, teacher beliefs about their self-efficacy with students who exhibit behavior disorders have been demonstrated to predict the use of certain classroom interventions and willingness to work with other professionals (Andreou & Rapti, 2010). According to Frey (2002), strategies to improve teacher self-efficacy with students who exhibit behavior disorders will be more effective than individual or group counseling for these children.

Attribution Theory and Its Relationship to Teacher Self-Efficacy

Attribution theory has been explained in the literature as a description of a process whereby individuals search for causal attributions regarding events, which in turn, influence expectations and provoke emotion along the dimensions of locus, stability, and controllability (Heider 1958). Extending Heider's work, Weiner (1980, 1985, 1986) developed a theory of motivation and emotion regarding helping behavior. Weiner's attributional model of helping behavior predicts that attributions about an individual's behavior will be reliably associated with expectations and emotional responses that will tend to affect helper behavior. Specifically, Weiner suggests that a causal attribution will have psychological

consequences related to both expectancy and affect, and these consequences are then presumed to determine action (Weiner, 1985, 2010). In his theory of self-efficacy, Bandura suggests that the impact of attributions on self-motivation occurs through the effects of the attributions on one's feelings of self-efficacy (Bandura, 1991). These connections provide the framework for the current study.

According to Weiner (1985), attributions can be classified according to three dimensions: locus of control (external vs. internal), stability (stable vs. unstable), and controllability (controllable vs. uncontrollable). Judgments of locus address whether the cause of the behavior resides within the individual (e.g. personality characteristics) or outside the individual (e.g. environment). Stability attributions index whether the cause is likely to be transient or present in the future. Attributions of control indicate the extent to which the cause is controllable by the individual (e.g. intentional) or uncontrollable by the individual (e.g. medical). These three dimensions originally proposed by Weiner are among those most consistently used in research throughout the past two decades. According to Weiner (1985), attributions may not be important in isolation, but are important because they can influence behavior.

Teachers' attributions and self-efficacy. Dix (1993) adapted the work of Weiner to create his own model of attributional processing and outcomes. According to Dix, the attribution of disposition to children is critical to the socialization process. Dix (1993) suggests that "inferring that children are intelligent, stubborn, or aggressive influences how adults react to them and which dispositions and behaviors children ultimately acquire" (p. 633). In relation to

Dix's theory, there exists an extensive research base examining teachers' attributions as related to student academic achievement (Fang, 1996; Georgiu, Christou, Stravrinides, & Panaoura, 2002; Medway, 1979). For example, several studies demonstrate that teacher attributions for academic performance affect teacher feelings of self-efficacy (Allinder, 1994; Ashton & Webb, 1986; Burley et al., 1991; Coladarci, 1992; Gibson & Dembo, 1984; Podell & Soodak, 1993; Ross, 1992; Soodak & Podell, 1994; Stein & Wang, 1988; Tournaki & Podell, 2005). Given the attribution-efficacy links established in this literature, and in literature exploring parent and care staff attributions for children who exhibit behavior disorders, it follows that empirical examination of teacher attributions for student behavior disorders and their effects on self-efficacy with these students would be relevant. A search of the literature in the area of behavior disorders determined that such investigation is conspicuously absent from the research base.

Teachers' attributions for behavior disorders. Although there is a relatively large body of literature examining teacher attributions with regard to academic achievement, investigation into teacher attributions for behavior disorders is relatively limited. Research conducted in various countries and cultures has illustrated that teachers tend to attribute the cause of behavior disorders to pupil factors and factors outside of the school environment (Andreou & Rapti, 2010; Arcia et al., 2000; Bibou-Nakou et al., 2000; Erbas, Turan, Asian, & Dunlap, 2009; Ho, 2004; Kulinna, 2008; Mavropoulou & Padeliadu, 2002; Soodak & Podell, 1994). Researchers have also begun to establish links between teacher attributions for behavior problems and choice of intervention (Andreou &

Rapti, 2010; Bibou-Nakou et al., 2000; Poulou & Norwich, 2000), teacher attributions and referral to special education (Podell & Soodak, 1993) and teacher attributions and perceptions of perceived control in interpersonal relationships in the area of behavior disorders (Mavropoulou & Padeliadu, 2002). However, neither the predictive role of teachers' attributions for teacher self-efficacy in the behavioral domain, nor the role that the attributional dimension (locus of control, stability, controllability) plays in differentiating teachers' expectations and beliefs about their self-efficacy, have been explored.

From a practical perspective, these relationships have the potential to significantly influence intervention with students who exhibit behavior disorders. For example, if a teacher attributes child misbehavior to external, unstable, and controllable factors (such as the teacher's proficiency with behavior management methods), he may believe he has the ability to alter the child's behavioral presentation with extra education or extra effort. On the other hand, a teacher who attributes behavior to a medical disorder (internal, stable, and uncontrollable), may believe that expectations for a successful intervention are minimal. This would be reflected in reduced feelings of self-efficacy. In their study investigating teacher beliefs with regard to effective classroom management and management of children with behavior disorders, Gibson and Dembo (1984) illustrated that teachers demonstrating a strong internal locus of control were most successful. Conversely, teachers who attributed student behavior problems to factors beyond the teacher's control, had lower expectations for both student change and the teacher's ability to manage behavioral difficulties.

According to Bandura (1991, 1997), and Weiner (1985), self-efficacy may be the mediating variable between an individual's personal explanations for an event (attributions), and their future behavior. Given the link that Bandura proposed between attributions and self-efficacy (Bandura, 1991), it is surprising that attributions for behavior disorders have not been examined systematically in relation to teacher self-efficacy with students who exhibit behavior disorders. However, studies of care staff working with people with intellectual disabilities and challenging behavior have suggested that attributions about problem behavior are correlated with willingness to help, emotional responses, and optimism about changing the behavior (Dagnan et al., 1998; Stanley & Standen, 2000; Weigel et al., 2006). Thus, the type of attribution formed by teachers might be an important determinant in teacher expectations, teacher perceptions of efficacy, and ultimately the behaviors related to working with the child.

Building on the work of Weiner (1985, 1986, 2010), Dix (1993), and Gibson and Dembo (1984), I propose that teacher beliefs about their self-efficacy in the behavioral domain may depend upon teacher attributions and expectations regarding student behavior disorders. In effect, attributions may act as interpretative filters that give meaning to the child's behavior, create an expectation about the amenability of the behavior to classroom intervention (Weiner, 1985, 1986, 2010), and subsequently guide formulation of the teacher's efficacy beliefs.

Attributions, Teacher Self-Efficacy, and the Teacher-Student Relationship

Attitudes and attributions are an integral part of teacher-student relationship based on the assumption that teachers who believe they can influence outcomes will have higher feelings of self-efficacy than teachers who feel they have little or no control over outcomes (Gibson & Dembo, 1984). As teacher self-efficacy reflects teachers' evaluations about their ability to effect positive student growth, beliefs about the causes of student difficulties emerge as potentially salient. If a teacher believes that the cause of a student's difficulty is changeable, her belief in her ability to successfully intervene may be strengthened. Conversely, when she believes the cause of the difficulty is beyond her control, she may develop terminal thinking or learned helplessness (Garbarino, 1999; Heider, 1958; Weiner; 2010). For humans in general, this form of restricted thought has been implicated in the inability to establish goals and pathways to goals (Snyder, 2000), a sense of meaninglessness (Seligman, 1995), low levels of hope (Snyder, 2000; Weiner, 2010), and a reduced capacity for resilience in the face of adversity (Brooks, 2001). Although teacher attributions may not be direct determinants of teacher feelings of efficacy, the present study sought to examine a possible pathway through which attributions and corresponding expectations may link to form a predictive effect. The following section will present a brief exploration of the literature base suggesting that empirical exploration of this pathway is a valuable endeavor.

Effects of Attributions on Teacher Expectations, Teacher Behavior, and Student Performance

Effects of attributions on teacher expectations. For approximately 40 years, researchers have been exploring the phenomenon of teacher expectations, and the role that these expectations play in the academic progress of students. Possibly the earliest and most influential studies directed at examining the effect of teacher attributions on students in schools were those of Harvard psychologist, Robert Rosenthal. Rosenthal and Jacobsen (1968) conducted a research study involving public school students. At the beginning of the school year, Rosenthal tested specific children with an obscure measure of intelligence labeled the Harvard Test of Inflected Acquisition. He then presented teachers with a list of students who, according to his testing, promised to be "late bloomers", and would show surprising gains in intellectual competence over the next eight months of school. These children were actually picked at random, and were not identified through the testing procedure. At the end of the year, the "late bloomers" had made greater gains than other students in the class. Rosenthal hypothesized that teacher expectations were the cause of the academic gains. This process was labeled the Pygmalion effect, with reference to mythological tradition.

In 1982, Rosenthal and his colleagues enhanced literature in this area with a publication referring to the opposite of Pygmalion effect. According to Babad, Inbar, and Rosenthal (1982), when teachers held low expectations for students, the performance of those students was significantly lower than that of students for whom teachers had intermediate or high expectations. Rosenthal termed this

phenomenon the *Golem effect*, with reference to Hasidic Mythology. In the literature, the notion that teachers' expectations about students will transform students' behaviors in ways that will confirm the teachers' expectations has been labeled the *self-fulfilling prophecy* (Brophy, 1985; Jussim, 1986) or the *Pygmalion effect* (Rosenthal & Jacobsen, 1968).

Good and Brophy (as cited in Tauber, 1997), describe a five step model that illustrates the process through which teachers' attributions lead to expectations, and the corresponding differential behaviors ultimately lead to fulfillment of expectations.

1) The child enters the teacher's classroom and, immediately, the teacher forms expectations of the child based on the attributions for behavior or achievement. These expectations begin to operate immediately, prior to the availability of disconfirming evidence.

2) The teacher conveys expectations to the child through differential behavior. According to Rosenthal (1978) the conveying of expectancies is best summarized through a Four Factor theory. The four factors include the climate (socio-emotional mood or spirit often communicated non-verbally), feedback (affective and cognitive responses to the child), input (time, energy, expectations) and output (encourage greater responsiveness from students for whom they hold higher expectations).

3) All students in the classroom environment acquire information by experiencing and observing the teacher's differential behavior.

4) Student behavior will begin to reflect the teacher's differential expectations if these expectations are consistent over time, and the student does not resist.

5) Over time, the rehearsal of behaviors corresponding with teacher expectations will become more stable and will more closely reflect teacher expectations.

This process illustrates how attributions may serve to identify expectational boundaries. The resultant cycle of personal and ecological beliefs and expectations may continually impact each other, ultimately leading to the enactment of the self-fulfilling prophecy. In support of this process, literature has illustrated that teachers adjust predictions of academic and social success based upon student characteristics and their own sense of efficacy regarding teaching in general, or themselves as teachers (Tournaki & Podell, 2005).

According to Rubie-Davies (2006), the debate in literature on expectations has not been whether expectations exist, but rather on determining what the impact of expectations is on children's learning. Therefore the majority of studies have explored the ways teachers interact with different students, and the types of learning opportunities provided for students for whom teachers hold high or low expectations. Trouilloud, Sarrazin, Bressoux, and Bois (2006), however, suggest that future research should focus on discovering the characteristics of teachers and teaching situations that are more likely to generate expectation effects.

Effects of attributions and teacher expectations on teacher behavior and student performance. Since Rosenthal's experiment, a plethora of studies

have clearly illustrated the existence of differential teacher expectations for individuals within their classrooms (Eccles & Wigfield, 1985; Good & Brophy, 2003; Jussim, Smith, Madon, & Palumbo, 1998) and have demonstrated that teachers' expectations can influence their behavior towards students (Good & Brophy, 2000; Harris & Rosenthal, 1985). In turn, teacher expectations have been shown to exert a profound effect in shaping students' self-perceptions, perceived competence, motivation, and achievement (Jussim, 1986; Jussim 1989; Madon, Smith, Jussim, Russell, Walkiewicz, Eccles, & Palumbo, 2001; Pelletier & Vallerand, 1996; Rubie-Davies, 2006; Trouilloud et al., 2006; Trouilloud, Sarrazin, Martinek, & Guillet, 2002). These studies suggest that one of the consequences of a perceiver holding an expectation is that the expectation may lead the target to behave consistently with the expectations, and to conclude that he is actually that type of person. This has been supported in the literature on perceived competence in the areas of mathematics (Madon et al, 2001), reading (Brattesani, Weinstein, & Marshall, 1984), and physical education (Trouilloud et al, 2002).

Of particular interest is the finding that subtle verbal and nonverbal cues that teachers provide in their interactions with students may be critical in relaying teacher expectations to students. In his research conducted in Israel, Babad (1990, 1995) found that even when teachers believed that they were providing more support to low-ability students, the children perceived the opposite. Babad (1998) reported that even when teachers did attempt to provide emotional support to low-expectation students, the students believed that these responses were not genuine

because they were exaggerated. Babad, Bernieri, and Rosenthal (1987, 1989a, 1989b, 1991) further reported that fourth graders were able to determine when teachers were talking to, or about, high or low-expectations students merely by viewing a 10 second video clip of the teacher. This study was replicated in another country where students could not understand the language, and therefore determined the expectations from facial expressions, tone, and body language (Babad & Taylor, 1992).

Teacher expectations have been found to have more impact when students are grouped by ability within classrooms, rather than between classrooms (Eder, 1981; Smith, Jussim, & Eccles, 1998). Furthermore, environments that are controlling (e.g. using rewards, directives, evaluations and threats) make students more susceptible to teacher expectations than those that enhance students' internal locus of causality, intrinsic motivation, and self-determination (Deci, Vallerand, Pelletier, & Ryan, 1991; Reeve, 2002). This last finding may be particularly salient with students who exhibit behavioral disorders, considering that rewards and other components of behavior modification practice are common interventions used with these students (Arcia et al., 2000; Cook et al., 2003).

Heider (1958) suggested that attributions affect expectations, but may also be strongly affected by errors and biases. Errors such as the *fundamental attribution error*, where the contribution of internal, dispositional factors to performance outcomes is overestimated, and the contribution of situational factors is underestimated (Heider, 1958; Jones, 1979**)** exist as one of these biases. Literature suggests that teachers are susceptible to the fundamental attribution

error. In the classroom environment, teachers have been shown to place greater emphasis on factors internal to the student (e.g. ability), than external factors (e.g. teacher strategies) in making attributions regarding success/failure and predicting future performance (Georgiu et al., 2002; Mavropoulou & Padeliadu, 2002; Medway, 1979; Tolefson & Chen, 1988). Literature further suggests that when causes are regarded as inherent within the individual, teachers typically engage in less interaction with the students than when problems are attributed to an interaction between the learner and the environment (Jordan, Lindsay, & Stanovich, 1997). Woolfson, Grant, & Campbell (2007) found that when teachers viewed the influence of ability as stable and fixed, they expected a limited likelihood of change, and this perception ultimately determined teacher behavior. Their study also highlighted evidence that teachers made lower controllability attributions for students with identified support needs. That is, when students were labeled as having special needs, teachers believed they had less control over student outcomes.

With regard to individuals who exhibit behavioral disorders, research has demonstrated that the fundamental attribution error is also apparent. Studies within learning disability and mental health settings examined staff attributions regarding the challenging behavior of individuals within the setting. These studies found that care staff tend to attribute challenging behavior to internal etiologies (Dagnan et al., 1998; Weigel et al., 2006), and when such a style is noted, staff may be less willing to provide help to the client (Dagnan et al., 1998). Although research exploring teacher attributions for behavior disorders is limited,

literature confirms that teacher attributions influence teacher behavior and choice of intervention (Andreou & Rapti, 2010; Kulinna, 2008). In turn, this teacher behavior can have a strong impact on student outcomes. Teachers can be potent socializing agents, and their behavior toward certain students may exert a priming effect on student attitudes. In relation to behavior disorders specifically, teachers attitudes towards, and endorsement of certain types of student behavior, can affect other student's beliefs and responses to that behavior. For example, in classrooms where kindness and caring are emphasized repeatedly, children become more sensitive to cues that a child's feelings are hurt (Guerra et al., 2005). For externalizing behavior problems such as aggression, teacher attitudes and behaviors have been shown to affect student beliefs about themselves and others. Research demonstrates that when teachers made behavioral norms against aggression salient, students in classes were more rejecting of aggressive classmates, and when children in a classroom rejected aggressive peers, classroom levels of aggression decreased (Henry et al., 2000). Research further suggests that aggression, when it is allowed to occur, is subsequently maintained and shaped by the reactions of others. For example, aggressive children felt more positive about their social skills in classes where they drew negative attention and experienced perceived success as a result of their antisocial behavior (Chang, 2003).

The Effect of Teacher Education, Teaching Level, and Teaching Experience on Attributions

In exploring attributions common to particular careers associated with children who exhibit behavior disorders, family psychologists and clinical social workers tended to assign causal attributions for childrens' behavior problems to parents, whereas child psychiatrists tended to endorse biological determinants and treatments (Johnson et al., 2000). These attributions appear to reflect both education or experience or a combination of both. Therefore, it seems a logical extension that when studying attributions, expectations, and efficacy in teachers, similar variables must be considered as potential moderators of the proposed effects. Four such variables are considered next.

Type of teacher preparation/education and attributions. Literature indicates that teacher expectations regarding student achievement change through professional development, and researchers have suggested that teacher preparation in the area of academic performance would benefit from including education with respect to attributions and self-efficacy (Timperley & Phillips, 2003). However, there is a dearth of research exploring the relationship between the type of preparation teachers receive, and their attributions for student behavior disorders. Investigation of this connection may be particularly relevant considering that literature highlights the importance of parental attributions in parent education programs (Bor, Sander, & Markie-Dadds, 2002; Bugental & Johnston, 2002) and teacher attributions have been found to vary based upon teacher education and area of specialty (Erbas et al., 2009).

Teaching level, area of specialty, years of experience, and attributions. Research has demonstrated that teaching level, area of specialty, and number of years of experience play a role in teacher attributions. Elementary school teachers, and teachers with more experience, tend to ascribe behavior problems to causes external to their own context and themselves (Andreou & Rapti, 2010; Christensen, Ysseldyke, Wang, & Algozzine, 1983; Mavropoulou & Padeliadu, 2002; Soodak & Podell, 1994). Furthermore, Woolfson et al. (2007) discovered that mainstream teachers perceived lower controllability attributions for students with identified support needs than did special education teachers, and special education teachers viewed children's difficulties as more amenable to change than did mainstream teachers. In other institutions working with individuals who exhibit behavior disorders, staff knowledge and experience have also been demonstrated to affect the relationship between attributions, expectations, and behavior (Oliver et al. 1996; Hastings et al, 2003).

The Effect of Teacher Education, Teaching Level, and Teaching Experience on Self-Efficacy

Although research into teacher self-efficacy in the domain of student behavior disorders is sparse, variables such as teacher education/professional preparation, teaching level, and teacher experience emerge from the literature as variables that may be instrumental in the development of efficacy beliefs. Although a causal relationship has not been established, Lewin, Nelson and Tollefson (1983) demonstrated that teachers who had formal instruction in behavior management during their preparation improved their ability to manage

misbehavior. In addition to education factors, workplace factors have also been shown to operate on teacher self-efficacy in the behavioral domain. As self-efficacy theory posits that an individual's confidence is strongly influenced by experiences (Welch, 1995), the amount and type of experience a teacher accumulates could have implications for self-efficacy beliefs. Research has highlighted mixed results regarding teachers' efficacy fluctuations over their careers. There is some evidence that self-efficacy beliefs change over the course of a teacher's career, with efficacy beliefs highest during the pre-service years, decreasing within two years of graduation (Buell, Hallam, Gamel-McCormick, & Scheer, 1999; Soodak & Podell, 1997), and then increasing again after six years of experience (Soodak & Podell, 1997). Conversely, Lin and Gorrell (1998) found no differences the efficacy ratings of new and experienced teachers. With respect to behavior disorders specifically, Borg (1998) found that less experienced teachers felt more helpless or anxious in dealing with behaviors than more experienced teachers, however Andreou & Rapti, 2010 found that experience did not appear to influence teachers' efficacy beliefs. Teaching level has not been studied with respect to teacher self-efficacy in the area of behavior disorders, however teaching level has been determined to have an impact on teachers' choice of intervention, with elementary teachers using more strategies to deal with behaviors (Kulinna, 2008). Although these factors have not been explicitly examined with respect to a potential attributions-expectation- self-efficacy link in the area of behavior disorders, the aforementioned research findings suggest a potential influence. Research exploring education and workplace factors

associated with the formulation of attribution and efficacy beliefs will clearly enhance our understanding of pre-service and in-service educational and workplace supports that could be beneficial for teachers in their work with this population of students.

The Present Study: Constructing an Attributions, Expectations, and Self-Efficacy Model

As described in detail above, according to attribution theory, an attribution may prompt the formulation of an expectation, and subsequently influence how efficacious an individual feels about undertaking certain actions that may be prudent or appropriate in a particular situation (Weiner, 1985, 2010). It is thus conceivable that an attribution held by a particular teacher may generate a belief that is a pivotal determinant in formulating an expectation about the teacher/child relationship and the teacher's role in that relationship. With respect to improving outcomes for teachers and students in the area of behavior disorders, examination of literature highlights the critical role played by three theoretical constructs: attributions (Weiner, 1985), expectations (Rosenthal, 2002), and self-efficacy (Bandura, 1997). Thus, I have chosen these constructs to form the basis of my proposed model.

The literature reviewed points to attributions as a starting point to understanding expectations and efficacy. Most pertinent to the formulation of my model is research in the area of parent and care staff relationships with children who exhibit behavioral disorders, which has demonstrated links between adult attributions and their propensity to initiate and engage in intervention (Dagnan et

al., 1998; Reimers et al., 1995; Stanley & Standen, 2000; Weigel et al., 2006). However, a major difference between my study and pre existing work, is a focus on attributional dimensions, which are theoretically proposed to be more important than the actual causal attribution (Weiner, 1985, 2010). As attribution theory suggests that attributional dimensions predict expectations (Weiner, 1985, 2010), teachers' expectations were hypothesized to be the mediating variable in the model. The final variable in my model is teacher efficacy, because Bandura (1991) suggested that the impact of attributions on motivation occurs through the effects of attributions on one's self-efficacy. Furthermore, self-efficacy has been described as an operative construct and a good predictor of actual behavior (Bandura, 1997).

Although consisting of common variables, my literature search of these variables on ERIC, PSYCHINFO, MEDLINE and PUBMED revealed no study that tested this proposed model in the area of teachers and their work with children who exhibit behavior disorders. The most similar studies explored the relationship between attributions and choice of intervention (Andreou & Rapti, 2010; Arcia et al., 2000; Kulinna, 2008), and self-efficacy and choice of intervention (Andreou & Rapti, 2010), but did not consider the effect of attributions on expectations or efficacy. Thus this model makes a new contribution to the literature in this area, and expands on other work. In short, my model is predicated on existing evidence that attributions are an integral part of how teachers make judgments about the capabilities of students, which subsequently create expectations, and in turn nurture beliefs about the teachers'

ability to successfully intervene with the student. This basic model, along with several proposed moderators, is presented in Figure 1 and further explicated in the specific research questions and hypotheses that follow.

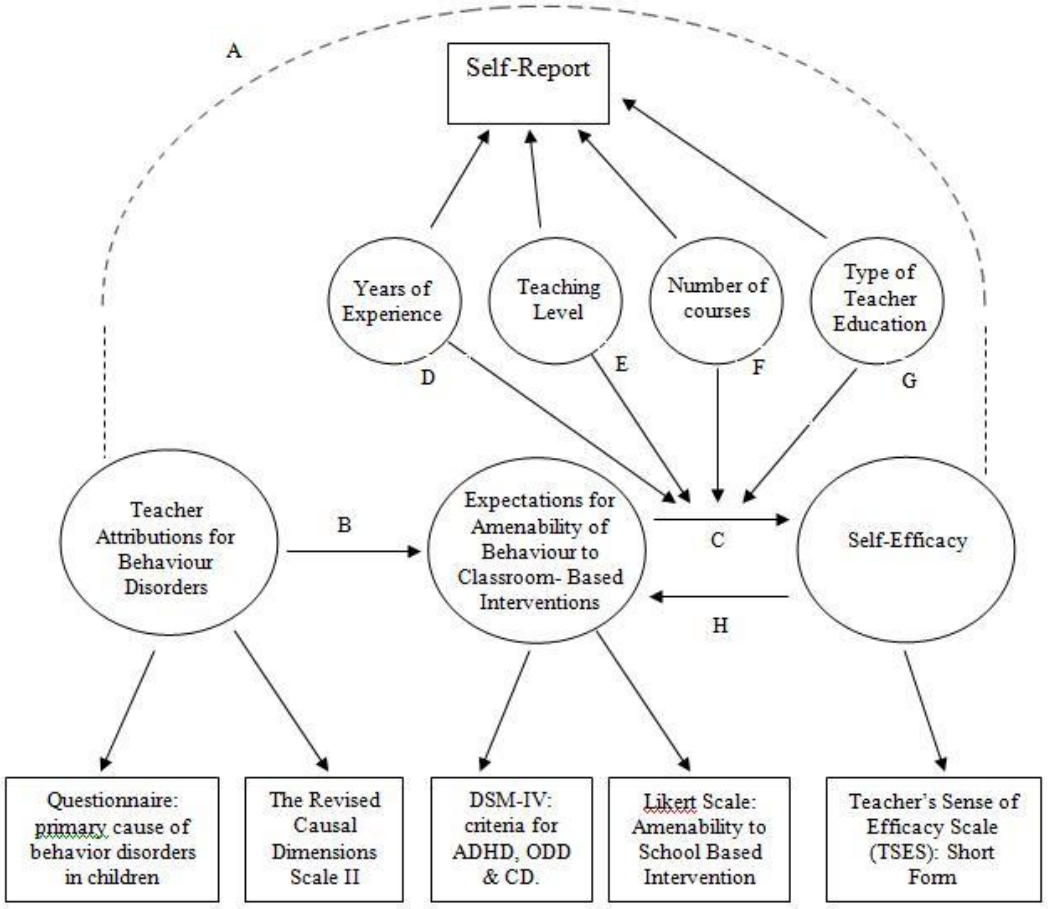

Figure 1. The effect of causal attributions for behavior disorders on teachers' self-efficacy, as mediated by teacher expectations and moderated by years of teaching experience , teaching level, number of courses, and type of teacher education.

This study contributes to the existing body of research by exploring the following research questions:

1. Do teachers' attributional dimensions for student behavior disorders predict their feelings of self-efficacy with students who exhibit behavior disorders? (Path A)
2. Do teachers' attributional dimensions for student behavior disorders predict their expectations regarding the amenability of the behavior to classroom-based interventions? (Path B)
3. Do teachers' expectations regarding the amenability of behavior disorders to classroom-based interventions predict their self-efficacy with students who exhibit behavior disorders? (Path C)
4. Do teachers' expectations regarding the amenability of behavior disorders to classroom-based interventions mediate the hypothesized relationship between attributional dimensions and self-efficacy with students who exhibit behavior disorders? (Paths B &C)
5. Does the type of teacher preparation (e.g. focus on deficit/individualized or universal/general interventions), amount of teacher preparation (e.g., number of courses in BD), years of teacher experience, and/or teaching level (e.g., elementary or secondary) moderate the relationship between expectations and efficacy? (Path C)
6. Is an alternative model in which attributions predict efficacy and efficacy predicts expectations a better representation of the data (Path H)?

Hypotheses

Hypothesis 1. It was hypothesized that the attributional dimension of locus of causality (internal vs. external) would be the primary predictor of teachers' feelings of self-efficacy with these students (Path A). Literature suggests that teachers are susceptible to the fundamental attribution error, and tend to emphasize internal factors when making attributions regarding student success or failure, and predicting a student's future performance (Georgiou et al., 2002; Mavropoulou & Padeliadu, 2002; Medway; 1979; Tollefson & Chen, 1988), thus locus of causality attributions were expected to be the main determinant of efficacy. More specifically, internal attributions were expected to reduce feelings of self-efficacy, whereas external attributions were expected to enhance such beliefs.

Hypothesis 2. Similarly, teachers' locus of causality attributions for student behavior disorders were expected to predict teacher expectations about the amenability of the behavior to classroom-based interventions. Specifically, I hypothesized that attributions reflecting a belief that behavior problems are primarily related to factors internal to the child would lead to lower expectations for behavioral amenability than attributions related to factors that are external to the child. This hypothesis is based primarily on evidence that shows parental attributions (Hoza et al., 2000; Reimers et al., 1995) and care staff attributions (Dagnan et al., 1998; Weigel et al., 2006) for childrens' behavioral disorders play a role in adults' expectations for success, choice of intervention, and treatment effectiveness (Hastings, 2005; Johnson & Ohan, 2005; Weigel et al., 2006).

Research has further indicated that care staff tend to attribute challenging behavior to internal etiologies (Dagnan et al., 1998; Weigel et al., 2006), and when such a style is noted, staff may be less willing to provide help to the client (Dagnan et al., 1998). This has been supported in the educational setting where research has also found within-learner variables (locus of causality attributions) to be associated with lower teacher expectations (Georgiou et al., 2002; Medway, 1979; Tollefson & Chen, 1988) in the area of learning disabilities.

Hypothesis 3. I hypothesized that expectations about behavioral amenability would mediate the relationship between the causal attributions and self-efficacy. More specifically, the hypothesized path of effect was proposed as follows: internal attributions of locus of causality would lead to reduced expectations for behavioral amenability, which would in turn reduce feelings of self-efficacy for students who exhibit behavioral disorders, whereas external attributions would lead to higher expectations for behavioral amenability, and increased feelings of self-efficacy. Although these links have not been established in the literature on teachers in their work with behavior disorders, there is considerable support for this hypothesis. First and foremost, a large body of psychological theory suggests that causal dimensions are related to expectancy, and, ultimately, can play a significant role in shaping an individual's belief in his own self-efficacy (Bandura, 1991, 2006; Weiner, 1985, 2010). Weiner (2010) suggested that internal attributions regarded as stable (such as aptitude), predict a reduced expectancy of future success, which subsequently influence motivation. As self-efficacy is considered to be a motivational construct, and Bandura

suggested that attributions affect motivation because of their influence on self-efficacy (Bandura, 1991), the links between locus of causality attributions, expectations, and self-efficacy were hypothesized. Finally, there is substantial empirical support for the assertion that teachers' attributions and expectations can influence their behavior towards students (Andreou & Rapti, 2010; Arcia et al., 2000; Georgiou et al., 2002; Good & Brophy, 2000; Harris & Rosenthal, 1985; Jordan, Lindsay, & Stanovich, 1997; Mavropoulou & Padeliadu, 2002; Soodak & Podell, 1994; Woolfson et al., 2007) and influence their belief in their ability to make a difference (Sharlach, 2008), supporting application of these links to the educational domain.

Hypothesis 4. It was hypothesized that the relationship between expectations for amenability of behavior and teacher self-efficacy (Path C) might be moderated by the teachers' experience (Path D), teaching level (Path E), the number of courses specific to behavior disorders (Path F) and the type of education (Path E). Teachers with less teaching experience have been demonstrated to feel more helpless with students who exhibit behavior problems (Borg, 1998), and lower self-efficacy beliefs have been reported in novice as compared to experienced teachers (Tschannen-Moran & Hoy, 2007). Therefore, I hypothesized that lower expectations for behavioral amenability would predict lower self-efficacy beliefs, however this effect would be stronger for teachers with less experience than for teachers with more experience.

Teaching level has been demonstrated to affect teachers' attributions (Christenson et al., 1983; Kulinna, 2008; Soodak & Podell, 1994), as well as their

choice of intervention strategy (Kulinna, 2008). Specifically, elementary teachers have been demonstrated to use more strategies with students who exhibit behavior disorders (Kulinna, 2008), possibly suggesting stronger self-efficacy beliefs. With respect to attributions, high school teachers have been demonstrated to be more likely to attribute student behaviors to factors external to the school (Kulinna, 2008). Thus, I hypothesized that lower expectations for behavioral amenability would predict lower self-efficacy beliefs, however this effect would be stronger for junior high or high school teachers than for elementary teachers.

Teachers' areas of specialization and university coursework on behavioral approaches have been demonstrated to influence their attribution styles (Erbas et al., 2009). Although I was unable to locate research exploring a relationship between the number of courses specific to behavior disorders and teachers' attributions or self-efficacy, literature did indicate that special education teachers are more likely to modify their teaching strategies and the educational environment, and tend to have stronger self-efficacy beliefs than regular education teachers (Leyser, 2002). Special education teachers have also been shown to view learners with identified support needs as more amenable to change than regular education teachers (Woolfson et al., 2007). As special education teachers are typically provided with more courses specific to various student disabilities than regular education teachers, I hypothesized that lower expectations for behavioral amenability would predict lower self-efficacy beliefs, however this effect would be stronger for teachers with less coursework specific to behavior disorders than for teachers with more coursework specific to behavior disorders.

Finally, based upon my review of the literature, the influence of type of education (individualized strategies as opposed to universal/general strategies) on self-efficacy has not been explored with respect to teachers and their work with students who exhibit behavior disorders. However, literature has suggested that teachers are resistant to individualized approaches due to the time and special expertise required to implement them in the classroom (DuPaul & Ervin, 1996), and researchers have made calls to move towards utilizing a more universal approach to school-based intervention for students who exhibit behavior disorders (Ducharme & Shecter, 2011; Hunter, 2003; Sindelar & Brownell, 2001). Based upon this literature, I hypothesized that internal attributions of locus of causality would lead to reduced expectations for behavioral amenability, which would, in turn, reduce feelings of self-efficacy, however this effect would be stronger for teachers whose education stressed individualized approaches as opposed to universal/general approaches to intervening with behavior disorders.

Hypothesis 5. As the links between these variables have not been explored in the literature on teachers and their work with children who exhibit behavior disorders, an alternate model was also tested, whereby self-efficacy would mediate the relationship between the locus of causality attributions and expectations regarding the amenability of the behavior to classroom intervention (Arrow H). This alternate model is compatible with efficacy theory, which suggests that efficacy beliefs can shape people's expectations (Bandura, 2006, 2012). Literature has supported this connection as Tournaki and Podell (2005) found that teachers adjust their predications or expectations of academic and

social success based upon both student characteristics and their own sense of efficacy.

Method

Procedure

Both the University of Alberta ethics review board and the Cooperative Activities Program approved this project. Once both levels of approval were obtained, school districts and then individual schools were approached regarding the study. To begin, I contacted four school districts, all of whom were in favor of supporting the research. Three school districts accepted the full survey, and one school district accepted the survey pending the removal of the self-efficacy questionnaire for students who do not exhibit behavior disorders. This portion of the survey was removed for this school district.

Next, I provided each of the four school districts with several different options in terms of distributing the survey to schools and teachers. The specific protocol for participant recruitment was based upon school district preference. Two school districts assumed responsibility for participant recruitment themselves. In other words, I gave the district a copy of the survey and they distributed to whichever and however many schools and teachers they wished. For this reason the actual number of potential participants from these school districts is unknown. The other two school districts provided me with specific schools to contact.

For the two school districts providing specific schools, I gave the principals of each school two choices for participant recruitment. In the first option I would

attend a staff meeting where the study and participants' rights would be explained orally. Following the oral explanation, the teachers would be provided with an information letter reinforcing the oral description, and providing an address to the on-line survey. This letter would be followed by an email sending the teachers the link electronically. In the second option I would invite the teachers to participate through an email alone. The email presented the information in much the same way as the oral description and included information regarding the study's purpose and participants' rights. The information letter comprised the first page of the email, and contained a link to activate the survey. An email address was provided to answer any participant questions or concerns. All of the principals chose to recruit participants through email. Moreover, rather than provide me with a list of email addresses, the principals decided to send the link themselves through the school listserv. As such, although all principals indicated the intent to circulate the email, it is not known whether all of them did so, rendering the actual number of potential participants from these schools as unknown.

Data collection occurred over a four month period between January 2010 and May 2010. Participating teachers were asked to complete the survey within two weeks of receiving the link. School districts were contacted one at a time, and each was provided with a two to three week period to receive responses prior to distribution of the survey to the next school board. Due to this method of collection, I was able to determine approximate numbers of participants from each school board. Precise numbers were unavailable as it is conceivable that teachers

responded after the two to three week period provided for each board. A summary of participating school boards and recruitment information follows.

Urban public school district. The largest school district, which operates 195 schools serving approximately 80, 000 students, made 16 schools available. I then contacted the principal of each school individually to inquire as to their willingness to participate in the research. Twelve principals chose to participate in the research, making approximately 203 teachers potential participants. Principals were provided with the aforementioned choices for distribution of the survey. All of the principals in this school board chose to email the survey to participants themselves, rather than provide me with a list of addresses. As a result, I am not aware of the number of principals who followed through with forwarding the email. In total, however, approximately 102 participants were recruited from this school board.

Urban Catholic school district. The second school district operates 84 schools serving approximately 33,000 students. Participants were recruited directly by the district administration through an email to principals, who were then provided with the option of circulating the survey to the teachers in their schools. In theory this means that the survey was sent to 84 principals who could have passed it on to approximately 1858 teachers. Because principals had the option to circulate the survey, the number of schools that participated is unknown. In total, approximately 22 teachers responded to the survey.

Urban area satellite communities public school district. The third school district operates 44 schools, educating approximately 16,000 students drawn from

five small satellite communities in close proximity to the larger urban area. This school board granted me access to 11 schools, 8 of which chose to participate in the research. Approximately 166 teachers were employed in these 8 participating schools. Again, principals were offered the choices for survey distribution, and all principals chose to email the survey to staff. The number of principals who followed through with forwarding the email is unknown, however, approximately 30 participants completed the survey.

Urban area satellite communities Catholic school district. The final school district operates 16 schools. It has a population of approximately 5,800 students drawn from the same five small satellite communities as the urban area satellite communities public school district. This school district chose to circulate the survey through an email from the district office directly to the teachers. Principals were not involved in participant recruitment. I was not made aware of the number of teachers on the listserv who would have received the invitation to participate, however approximately 53 teachers completed the survey.

Participants

In the end 207, practicing teachers of students in Kindergarten through Grade Twelve completed the survey. Respondents ranged in age from 23 to 64, with a mean age of 40.63. Females comprised 76.6% of the sample. There were no necessary exclusion criteria. Participating teachers were employed in one of four school districts including two public school districts and two Catholic school districts serving a large urban area and surrounding communities.

Measures

Please note that all descriptive statistics and reliability information for the scales will be presented in the preliminary analysis section of the results. The information presented here is a description of each tool and rationale for its inclusion over other possible measures.

Motivation variables. This study included three motivation variables that functioned as the independent variable (attributions), and as the dependent variable and mediator alternatively (efficacy and expectations).

Attributions. The attributional data for this study were gathered through administration of The Revised Causal Dimensions Scale II (McCauley, Duncan, & Russell, 1992), which is a 13 item questionnaire that has two parts. The first part requires participants to identify a specific cause of the outcome under study. For this study, I posed the following question to teachers: "What do you believe is the primary cause for behavior disorders in school-aged children". Participants selected one of five options including biological factors, social factors, family factors, personality factors, or school factors. A sixth option, 'other' factors was provided, allowing teachers to provide their own cause in the event that their response did not conform to one of the options provided.

The remainder of the questionnaire requires participants to identify the underlying causal dimensions associated with the cause they identified previously. Thus, a main advantage of the The Revised Causal Dimensions Scale II (CDSII) is that it measures both the perceived cause itself and its attributional dimensions, which are theoretically proposed to be more important in the prediction of future

beliefs and behaviors. The attributional dimensions are measured on a semantic differential scale and include locus of causality (questions 1, 6, and 9), external control (questions 5, 8, and 12), stability (questions 3, 7, and 11), and personal control (questions 2, 4, and 10). McCauley et al. (1992) showed The Revised Causal Dimensions Scale II is "internally consistent and possesses adequate construct validity as a measure of how individuals perceive causes along causal dimensions" (p. 572). Initial psychometric properties and a confirmatory factor analysis of the scale were reported by McCauley et al. (1992). From this original work, coefficient alpha was calculated to determine internal consistency of the four scales and all values were within the acceptable range (.60 to .92). Results of the confirmatory factor analysis " provided support for the four-factor oblique structure, and all of the items were found to load significantly on the factor corresponding to the relevant causal dimension…and the causal dimensions assessed by the CDSII represent empirically distinct constructs" (p. 571).

The rationale for measuring teacher attributions in this manner was derived from literature in the area. The most common measures used in studies of teacher attributions consist of written descriptions of child behavior (vignette) followed by questions that ask teachers to rate the cause of the child's behavior along a number of attributional dimensions (i.e. locus, stability) on Likert type scales (Mavropoulou & Padeliadu, 2002; Woolfson et al., 2007). These measures provide ease and practicality, and enhance the comparability of responses across teachers by controlling the child behaviors that that serve as attributional stimuli and the attributional dimensions that are rated. However, disadvantages to this

method have been highlighted in the literature. Consistent controlled child behavior scenarios mean that the scenarios may not be representative of behaviors displayed by students in the teacher's experience repertoire. It has also been suggested in the literature that attributional dimensions and vignettes may not capture the research participant's more spontaneous causal reasoning (Johnston & Ohan, 2005) and therefore have reduced ecological validity (Weigal et al., 2006). Furthermore, according to McAuley, Duncan, and Russell (1992) researchers have traditionally translated causal attributions made by respondents into causal dimensions "committing what Russell (1982) has called 'the fundamental attribution researcher error' " (p. 566), or assuming that the researcher and the respondent perceive causes in the same manner. McAuley et al. (1992) suggest that the respondent should directly indicate how he or she views the attribution in terms of the causal dimension. Consequently, the CDSII was chosen because it attempts to address these concerns by including both an opportunity to choose or list an actual cause and having participants then rate the cause according to its underlying causal dimensions.

Expectations for amenability of behavior to classroom-based interventions (expectations). To date, researchers have not measured teachers' expectations regarding amenability of behavior disorders to classroom-based interventions, thus, I could not locate a validated pre-existing measure. Therefore, I developed a measure for this purpose based on the *Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition - Text Revision* (American Psychiatric Association, 2000). Specifically, participants used a 5-point scale (*5=highly*

amenable to change to *1=low amenability to change*) to rate several child behaviors derived from the diagnostic criteria for Attention Deficit Hyperactivity Disorder, Oppositional Defiant Disorder, and Conduct Disorder specified in the *Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition - Text Revision* (American Psychiatric Association, 2000). The reader is referred to Appendix E for a list of behaviors. I chose these behaviors because they are characteristic of childrens' behavior disorders described in the coding criteria used by the province, and thus are familiar to teachers (Alberta Education, 2009/2010). For this research, the scale was used as a composite in order to fully represent the range of behaviors that students exhibiting behavior disorders may demonstrate.

Teachers'self-efficacy. I measured teacher self-efficacy using The Teachers' Sense of Efficacy Scale (TSES) Short Form, formerly the Ohio State Teacher Efficacy Scale. Using the following nine-point scale (*1 - nothing, 3 - very little, 5 - some influence, 7 - quite a bit*, and *9 - a great deal*) participants responded to 12 items designed to measure efficacy in three contexts or domains: efficacy for instructional strategies; student engagement; and classroom management. Although three domains are assessed, the scale in its entirety is considered by Tschannen-Moran and Woolfolk Hoy (2001) to "represent the richness of teachers' work lives and the requirements of good teaching" (p. 801), and to assess a broad range of capabilities without "being so specific as to render it useless for comparisons of teachers across contexts, levels and subjects" (p. 802). In order to capture the broader view of teachers' feelings of self-efficacy

regarding students with behavior disorders, the full scale was used for this research. Two versions of the scale were included in the survey – one which asked the items as they pertained explicitly to students who exhibit behavior disorders, and one for general education students who do not exhibit behavior disorders. The purpose of including both versions was to effectively discriminate between the teachers' overall sense of self-efficacy with students in general, and their sense of self-efficacy with students exhibiting behavior disorders.

Supporting my choice of the TSES, several studies suggest that the TSES should be the preferred measure of teachers' sense of efficacy (Henemen, Kimball, & Milankowski, 2006; Klassen et al., 2009; Tschannen-Moran and Woolfolk Hoy, 2001) due to its replicable psychometric properties, behavioral richness in capturing the teacher role, predictive capacity for explaining significant variance in teacher classroom performance (Henemen et al., 2006), and correlations between the TSES and job satisfaction in diverse cultural contexts (Klassen et al., 2009). This measure has been shown to have a unified and stable factor structure, positive correlations with other measures of teacher efficacy (Tschannen-Moran & Woolfolk Hoy, 2001), strong internal consistency in a range of settings, and cross-national validity (Klassen et al., 2009). The TSES includes a long form (24 items) and a short form (12 items). The latter comprises the 4 items from each domain that have the highest factor loadings on the domain. The psychometric properties of the short form of the TSES are nearly identical to those of the long form (Tschannen-Moran & Woolfolk Hoy, 2001) and the TSES correlates positively with other measures of personal teaching efficacy

(Tschannen-Moran & Woolfolk Hoy, 2001) thus demonstrating construct validity. Tschannen-Moran and Woolfolk Hoy's (2001) reported alphas are as follows: Engagement = .87, Instruction = .91, Management = .90, TSES total = .94.

Demographic and Moderator Variables. In addition to age and gender, which were included as demographic variables, four other background variables were measured: teaching level, type of teacher education, amount of teacher education, and number of years of experience. These variables functioned both as demographic variables to control for natural differences as well as potential moderators of the effects of expectations on self-efficacy. In addition, a question regarding intervention beliefs was utilized to provide further information on teacher expectations.

Years of experience. Teachers were asked to indicate the number of years they had been teaching. Although the total range of years was impressive (0-45), I again created a dichotomous variable, labeled "Number of Years of Teacher Experience", that divided teachers into two groups, one with less experience and one with more experience. The median number of years of experience was 11. Therefore, teachers with 0-11 years experience were considered less experienced (coded 1) and teachers with 11-45 years experience were considered more experienced (coded 2).

Teaching level. Respondents were asked to identify the level at which they currently taught, including elementary, junior high, or high school. An orthogonal contrast was used (elementary vs average of junior high and high, and junior high vs. high) to create the variables.

Amount of teacher education. To determine the amount of teacher education related to students with behavior disorders, the following two questions were posed: "When you were completing your B.Ed. did you receive any education directly aimed at developing classroom management skills for students who exhibit behavior disorders?" (*Yes/No*) and " How many pre-service (B.Ed.) courses did you take that directly addressed classroom management for students who exhibit behavior disorders?". Looking at responses, 77 of the respondents had not taken any courses for students exhibiting behavior disorders (BD) courses, and the median number of courses taken was 0. Thus, because very few teachers received instruction related to behavior disorders, I created a single dichotomous variable, labeled 'Number of BD Courses'. Respondents who did not take any BD courses were assigned to the first group while respondents who took one or more BD courses were assigned to the second group. This variable was retained and included as a potential moderator.

Type of teacher education. To measure the potential influence of type of teacher education with regard to interventions for students with behavior disorders, teachers responded to the following forced-choice question: "You have been assigned to a classroom and are aware that you will have a student who exhibits a behavior disorder. Based on the EDUCATION you received during your university courses, which of the following best describes the action you would take?":

a. Develop an individual behavior plan for that student and design consequences and interventions that are applied specifically to that student.
b. Use the same strategies that you use for other students in the classroom.

In the analysis, type of education is represented in tables as "*preferred intervention based upon education*" in order to reflect these questions. For comparison purposes, I asked the same forced-choice question in reference to the teachers' experience. The instructions were "Based on your EXPERIENCES as a teacher, which of the following best describes the action you would take."

Intervention beliefs. Although not included in the analysis, a question regarding intervention beliefs was included in order to explore teachers' beliefs about the most successful context for intervention for children exhibiting behavior disorders (in school or outside of school). This question was utilized to obtain additional information regarding expectations for school-based intervention. Respondents were asked to rate the following statements using a five point Likert scale using "*strongly disagree*" to "*strongly agree*": "Behaviors exhibited by students with behavior disorders can be changed successfully through classroom-based interventions." and "Behaviors exhibited by students with behavior disorders can be changed successfully through interventions that occur outside of the school environment (e.g. counseling, home-based interventions)." Finally, teachers' were asked to respond to the forced-choice question: "Please indicate the type of intervention you believe would be most effective in changing behaviors exhibited by students with behavior disorders". Teachers were

provided the option of choosing either "*Classroom-based interventions*", or "*Interventions outside of the school environment (e.g. counseling, home-based interventions)*".

Free responses. At the conclusion of the survey participants were invited to answer the following two open-ended questions about teacher experiences and teacher preparation regarding students who exhibit behavior disorders: "Is there anything else you would like to share about your experiences working with students who exhibit behavior disorders?" and "Is there anything else you would like to share about your teacher preparation regarding students who exhibit behavior disorders?" These questions were intended to provide context to the quantitative results by providing teachers with the opportunity to contribute any ideas or information that they felt had not been elicited through other survey questions.

Rationale for Analysis

Quantitative. The main analyses used hierarchical multiple regression to test the predictive relationships between attributions, expectations, and self-efficacy. Specifically, I performed two five-step hierarchical regression analyses using the overall expectation and self-efficacy scores as dependent variables. Recall from the hypotheses section that two alternative models would be tested. In the first model, self-efficacy was treated as the dependent variable and expectations as the mediating variable between attributions and self-efficacy. In the second model expectations were treated as the dependent variable and self-efficacy as the mediator. The two hierarchical regression analyses were used to

examine the relationship between the dependent variables (expectations or self-efficacy) and a set of the independent variables (demographic variables, motivation variables, and moderator variables). In hierarchical regression, each set of predictor variables is assessed in terms of what it adds to the model (how much it increases the variance, or the R^2) at its own point of entry (Tabachnick & Fidell, 2007). In this analysis, the most relevant predicting variables were entered in the model to determine the extent to which either expectations or self-efficacy could be predicted by attributions and expectations, or attributions and self-efficacy, over and above the demographic variables. Multiplicative interaction terms (Wu & Zumbo, 2008) were added to these models to test for moderation by teaching level, type of teacher education, number of BD courses, and years of experience.

Prior to the main analyses several preliminary and descriptive analyses were completed. First, I screened the data for outliers. Second, to gain a sense of the characteristics of the participants, I examined the distribution of demographic and categorical variables including age, gender, teaching level, years of experience, number of BD courses, and type of classroom intervention identified as most preferred (individualized or universal/general). Third, I examined the descriptive statistics for the motivation variables, and the reliabilities for the measures. Fourth, I examined teachers' responses to the causes of behavior disorders and the theoretical attributional dimensions that might underpin them (e.g., biological cause as an internal dimension). Fifth I compared teachers' overall feelings of self-efficacy with students who exhibit behavior disorders to their feelings of self-

efficacy with general education students. Finally, I examined Pearson correlations between all variables in the model.

Qualitative. After running the main analyses I examined teachers' open-ended responses with regard to their teacher education and experience specifically regarding students with behavior disorders. I identified main themes, and created a tally to indicate the number of responses corresponding with each of the main themes.

Results

Preliminary Analyses

Outlier analysis. Prior to the outlier screening procedure, the data set was examined by checking each case for significant missing data. Twenty-four respondents did not have any expectations or behavior disorder self-efficacy responses and were thus dropped from the data set, resulting in an N of 183. Tabachnick & Fidell (2007) indicate that "one procedure for handling missing values is simply to drop any cases with them. If only a few cases have missing data and they seem to be a random subsample of the whole sample, deletion is a good alternative." Cross-tabulation procedures were conducted to determine whether those who had missing values were different from those who completed the survey in terms of type of education (preferred type of intervention based upon education), type of intervention based upon experience, and causality (differences in demographics could not be ascertained as demographic questions were asked at the end of the survey – thus, those who did not complete the earlier items also did not complete the later items). There were no differences between

the two types of respondents based on the chi-square analysis. Further examination revealed that 23 respondents did not have any expectations total scores because they had some missing values, thus these respondents were dropped as well. An additional 6 respondents were dropped from the data set because they had high Cook's D values. Following the full outlier screening procedure, 154 cases remained in the data set.

Description of the sample. The descriptive statistics for the variables measured on either an interval or ratio scale are shown in Table 1. Respondents ranged from 23 to 64 years of age, with the mean age being 40 years old (*SD* = 10.14). The sample of teachers had between zero (in their first year of teaching) and 45 years of experience. The mean number of years of experience was 9.39 (*SD* = .79). Teachers reported taking between zero and 10 behavior disorder courses; the mean number of courses taken was one. Respondents neither agreed nor disagreed (chose the mid-response) to the idea that behavior disorders could be changed through classroom intervention but they agreed slightly to the idea that behavior disorders would be best addressed through outside intervention.

Table 1

Descriptive Statistics for Teacher Characteristics and Perceptions

Variable	N	Range	Mean	*SD*
Age	142	23 to 64	40.63	10.14
Years spent teaching	152	0 to 45	9.39	.79
Number of BD courses	145	0 to 10	1.67	3.14
Change BD through classroom intervention	154	1 to 5	3.58	.88
Change BD through outside intervention	154	1 to 5	3.87	.72

Note. BD = Behavior Disorder.

The frequencies and percentages for the variables measured on either a nominal or ordinal scale are displayed in Table 2. Respondents were primarily female (76.6 %). Years of teaching experience ranged from zero to 45 years, with a mean of 9.39 years. The majority of respondents were elementary (54.5 %) and junior high (29.9%) school teachers. High school teachers comprised only 13% of the sample.

In terms of teacher education, the majority of respondents (62.7%) reported that they had taken no university courses related to teaching students with behavior disorders. Although 37.3% reported that they had taken one or more courses, the mean number of courses taken was 1.67 and the median was zero.

A majority (61%) of teachers expressed the belief that intervention outside of the school environment was most effective in addressing behavior disorders, while 33.8% suggested that school-based interventions were most effective. Finally, the majority of respondents espoused a preference for individualized behavioral interventions, as opposed to generalized interventions addressing all students in the classroom. This preference was consistent based upon both teacher education (70.1%) and teacher experience (87%).

Table 2

Frequencies and Percentages for the Demographic Variables (N = 154)

Variable	Frequency	Percentage
Gender		
Male	29	18.8
Female	118	76.6
Teaching level		
Elementary	84	54.5
Junior high	46	29.9
Senior high	20	13.0
Took behavior disorder education classes		
Yes	56	36.4
No	94	61.0
Preferred intervention based on education		
Individualized strategies	108	70.1
Same strategy used with others (universal/general)	45	29.2
Preferred intervention based on experience		
Individualized strategies	134	87.0
Same strategy used with others (universal/general)	19	12.3
Most effective intervention for behavior disorders		
Classroom-based	52	33.8
Outside school environment	94	61.0

Reliability of measures and description of motivation variables.

Reliability of measures. The reliabilities of the measures were assessed using Cronbach's alpha and are displayed in Table 3. The item, "Cause 7 " from the CDSII was dropped from the Stability subscale because its item-total correlation was low (.12). Alpha prior to its deletion was .38; alpha after its deletion jumped to .47. Alpha for all variables except the Stability measure exceeded the .70 level suggested by Nunnally and Bernstein (1994).

Description of motivation variables. The descriptive statistics for the motivation variables are summarized in Table 3. Normality was assessed via skewness and kurtosis. According to Kline (2005), skew indices (i.e., skew statistic/SE) above three indicate non-normality. Kurtosis indices (i.e., kurtosis index/SE) between 10 and 20 also indicate non-normality. The findings in Table 3 indicate that the motivation variables had reasonable skew and kurtosis indices as all indices fell below three.

Table 3

Descriptive Statistics for the Study Motivation Variables (N =154)

Variable	Range	Alpha	Mean	*SD*	Skewness	Kurtosis
Attribution						
Locus of control	1.00 to 7.00	.87	1.27	1.55	-.25	-.70
External control	1.00 to 7.00	.73	3.30	1.17	-.19	-.60
Stability	1.00 to 7.00	.47	3.38	1.20	-.38	.62
Personal control	1.00 to 7.00	.80	4.55	1.31	-.13	-.48
Expectations	1.39 to 5.00	.94	3.06	.87	.14	-.43
Self-efficacy with behavior disorder students	3.25 to 9.00	.93	6.05	1.23	-.02	-.10
Student engagement	2.75 to 9.00	.85	6.96	1.20	-.24	-.29
Instructional strategies	3.75 to 9.00	.86	6.53	1.22	-.18	-.15
Classroom management	3.25 to 9.00	.84	6.51	1.09	-.24	-.02

Note. *SE* for skew statistic = .19. *SE* for kurtosis statistic = .39

Attributions and attributional dimensions for behavior disorders in students.

Teacher attributions related to the cause of behavior disorders varied. However, the majority of respondents identified family factors (56.4%) and biological factors (21%) as a primary cause of behavior disorders in children. Approximately 20% of the sample identified social factors (9.7%) and personality factors (5.2%). "Other" was chosen by 5.8% of the sample. Respondents who chose this option either indicated that behavior disorders were caused by a combination of factors, or identified Fetal Alcohol Spectrum Disorder as a cause. None of the respondents identified school factors as a primary cause of behavior disorders in children.

Four one-way ANOVA procedures were conducted to determine whether teachers' attributional dimensions (i.e., locus of causality, external control, stability, and personal control) varied across each of the four perceived causes of behavior disorders. The means and standard deviations for causal attributions across the four perceived causes of behavior disorders are displayed in Table 4 while the ANOVA results are summarized in Table 5.

Locus of causality. Locus of causality attributions varied across the four types of perceived causes (F (4,144) = 32.84, $p < .001$). For this portion of the questionnaire, lower locus of causality scores represented causes more internal to the child. Post-hoc Tukey test results revealed that respondents who indicated that behavior disorders were due to biological reasons had significantly lower locus of causality scores (M = 2.53, SD = .96) than respondents who believed behavior

disorders were due to social (M = 4.91, SD = .87; p = .001), family (M = 5.03, SD = 1.28; p = .001), and other reasons (M = 3.81, SD = 1.11; p = .027). In addition, respondents who indicated that behavior disorders were due to personality reasons had significantly lower locus of causality scores than respondents who believed behavior disorders were due to social (p = .001) and family reasons (p = .001). Biological and personality causes were viewed as similarly internal to the child (i.e., no significant differences)

External control. External control attributions also varied significantly across the four perceived causes (F (4,144) = 7.55, p < .001), with lower external control scores representing a cause more controllable by others. Post-hoc Tukey test results revealed that respondents who indicated that behavior disorders were due to family reasons had significantly lower external control scores (M = 2.89, SD = 1.20) than respondents who believed behavior disorders were due to biological (M = 3.95, SD = 1.08; p = .000) and other reasons (M = 4.15, SD = .56; p = .011).

Stability. Stability attributions varied significantly across the four perceived causes (F (4,144) = 8.48, p < .001), with lower scores representing causes perceived as less stable. Post-hoc Tukey test results revealed that respondents who indicated that behavior disorders were due to biological reasons had significantly higher stability attribution scores (M = 4.29, SD = 1.10) than respondents who believed behavior disorders were due to social (M = 2.70, SD = .90; p = .000) and family reasons (M = 3.10, SD = 1.20; p = .000).

Personal control. Personal control attributions varied across the four types of perceived causes (F (4,144) = 8.48, $p < .001$), with lower scores representing causes perceived as having less personal control. Post-hoc Tukey results, however, did not reveal any significant group comparisons. The Tukey procedure tests for all possible pairwise differences; thus, to control for inflation of Type 1 error, its criterion for statistical significance is more stringent. Accordingly, although respondents who believed behavior disorders were due to personality reasons had lower personal control scores than respondents who believed behavior disorders were due either to family or biological reasons, the more stringent criterion of the Tukey procedure did not lead to any significant comparisons.

Table 4

Means and Standard Deviations for Attributions across Perceived Cause of Behavior Disorders

Perceived Cause	Percentage	Locus of Causality		External Control		Stability		Personal Control	
	Selected	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Biological	21.4	2.53	.96	3.95	1.08	4.29	1.10	4.65	1.18
Social	9.7	4.91	.87	3.20	.78	2.70	.90	4.27	1.42
Family	54.5	5.03	1.28	2.89	1.20	3.10	1.09	4.76	1.33
Personality	5.2	2.83	.71	3.75	.73	3.56	1.18	3.50	.84

Table 5

One-way ANOVA Results for Attributions across Perceived Cause of Behavior Disorders

Attribution	*df*	*MS*	*F*	Sig.
Locus of causality				
Between groups	4	43.37	32.84	.000
Within groups	144	1.32		
External control				
Between groups	4	8.98	7.55	.000
Within groups	144	1.19		
Stability				
Between groups	4	10.31	8.48	.000
Within groups	144	1.22		
Personal control				
Between groups	4	4.86	2.89	.024
Within groups	144	1.68		

In summary, these findings suggest that respondents viewed biological and personality causes for behavior disorders quite similarly. There were no significant differences between these causes on any attributional dimension. Rather, both biological and personality factors were significantly associated with being more internal to the child, and biology alone was viewed as being significantly less controllable by others and more stable over time than family or social causes. It is important to again note that not one participant chose 'school' as a cause.

Self-efficacy for students exhibiting behavior disorders (BDSE) versus self-efficacy for general education students (SE). Two versions of self-efficacy were collected to discriminate between the teachers' overall sense of self-efficacy with students in general, and their sense of self-efficacy with students exhibiting behavior disorders. The means and standard deviations for the BDSE and SE subscale scores and the paired *t*-test results are summarized in Table 6. Although only the full scale was used in the main analyses, I chose to examine differences in responses both for the full scale and the subscales to investigate the possibility that teachers may feel more efficacious in certain domains.

The findings revealed that Self-Efficacy for Student Engagement scores in the general sample ($M = 27.71$, $SD = 4.69$) were significantly higher than scores on Self-Efficacy for Student Engagement with students who exhibit behavioral disorders ($M = 24.63$, $SD = 5.04$; $t\ (56) = 5.73$, $p < .001$). Similarly, Self-Efficacy for Instructional Strategies scores in the general sample ($M = 31.61$, $SD = 3.91$) were significantly higher than scores on Self-Efficacy for Instructional Strategies with students who exhibit behavioral disorders ($M = 28.42$, $SD = 4.68$; $t\ (56) = 5.88$, $p < .001$). Lastly, Self-

Efficacy for Classroom Management scores with general students (M = 30.73, SD = 4.11) were significantly higher than Self-Efficacy for Classroom Management scores with students who exhibit behavioral disorders (M = 26.63, SD = 4.51; t (58) = 7.33, $p < .001$). In summary, respondents' self-efficacy for general education students was significantly higher than their self efficacy for students exhibiting behavior disorders. This finding held true for all domains, indicating that teacher respondents in this study feel significantly less efficacious, overall, with students exhibiting behavior disorders than they do with general education students.

Table 6

Means and Standard Deviations for the SE and BDSE Scores of the Control Group

Variable	*N*	SE		BDSE		*t*	
		M	*SD*	*M*	*SD*		
Student engagement	57	27.70	4.69	24.63	5.04	5.73	***
Instructional strategies	57	31.61	3.91	28.42	4.68	5.88	***
Classroom management	59	28.42	4.11	26.63	4.51	7.33	***
Full scale	55	89.67	11.03	80.00	12.52	7.32	***

Note. SE = Self-efficacy. BDSE = Behavior Disorder Self-efficacy.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Correlations between the model variables. Pearson correlations for the model variables are displayed in Table 7. Correlations between the Causality, External Control,

and Personal Control attribution subscales were conducted, however, none of the three scales were significantly associated with any of the model variables, and thus, were not included in further analyses. Age was positively associated with years of experience (r = .79, p = .001) and type of intervention based on education (r = .18, p = .037). Second, gender was negatively associated with teaching level (r = -.28, p = .001), type of intervention based on education (r = -.21, p = .013), and type of intervention based on experience (r = -.17, p = .047). Thus, in comparison to males, female teachers were more likely to teach students in elementary school and to choose individualized interventions (based on education and experience). Third, teaching level was positively correlated with type of intervention based on experience (r = .28, p = .001); in comparison to respondents who taught at the elementary level, respondents who taught at the junior high or high school levels were more likely to choose general interventions (based on experience). Fourth, years of experience was positively associated with type of intervention based on education (r = .17, p = .037); accordingly, respondents who spent more years teaching were more likely to prescribe general than individualized interventions. Fifth, number of BD courses taken was negatively associated with type of intervention based on education (r = -.23, p = .006); the more BD courses respondents took, the more likely they were to choose individualized rather than general interventions. Sixth, type of intervention based on education was negatively associated with expectations (r = -.19, p = .017) and self-efficacy (r = -.19, p = .019). In comparison to respondents who prescribed individualized interventions, respondents who prescribed general interventions had lower expectations and self-efficacy scores. Seventh, type of intervention based on experience was negatively associated with self-efficacy (r = -.22, p = .006); in comparison to respondents who prescribed

individualized interventions, respondents who prescribed general interventions had lower self-efficacy scores. Eighth, stability scores were negatively associated with self-efficacy scores (r = -.21, p = .009). Lastly, expectations were positively associated with self-efficacy scores (r = .69, p = .001).

Table 7

Correlations between Regression Model Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1 Age												
2 Gender	.05											
3 Teaching level	.04	-.28***										
4 Number of years of experience	.79***	.04	.02									
5 Number of BD courses taken	-.05	.03	-.01	-.13								
6 Type of intervention based on education	.18*	-.21*	.01	.17*	-.23***							
7 Type of intervention based on experience	-.05	-.17*	.28***	-.09	.11	.02						
8 Stability attributions	.11	.04	-.01	.15	.03	.01	.05					
9 Expectations for amenability of behavior	.06	-.07	.09	-.00	-.02	-.19*	-.15	-.15				
10 Behavior disorder self-efficacy	.03	.04	-.06	.03	-.10	-.18*	-.22**	-.21**	.69***			
11 Causality attributions	-.03	.03	-.01	-.02	.02	.04	.01	.33***	.02	-.04		
12 External control attributions	.12	-.01	-.06	.04	.09	-.03	-.08	-.21*	-.00	.04	-.51***	
13 Personal control attributions	.05	.16	-.21**	.10	.01	.07	-.08	-.18*	-.12	-.08	.35***	-.39***

Note. Gender (1 male, 2 female). Teaching level (1 elementary, 2 junior high, 3 high school). Type of intervention based on education (1 individual, 2 general). Type of intervention based on experience (1 individual, 2 general). Teaching level.

* $p <$ .05. ** $p <$ .01. *** $p <$ .001

Main Analyses

Predictors of self-efficacy with students who exhibit behavior disorders.

As explained above, the main analysis sought to test two possible models. Theory suggests that there is a relationship between attributions and expectations, attributions and self-efficacy, and expectations and self-efficacy. However, the relationship between these factors has not been explicitly tested with regard to teachers and their work with students exhibiting behavior disorders. Based upon literature in the area, it is conceivable that attributions could affect teacher self-efficacy through their relationship with expectations. Alternately, self-efficacy could be the mediating variable through which attributions have an impact on teacher expectations.

In the first model, self-efficacy was treated as the dependent variable in a five-step hierarchical linear regression. In the initial analysis, all attribution scales were included in the regression procedures as it was my hypothesis that causality would have the strongest relationship with other model variables. When self-efficacy was regressed on the four attribution scales, only stability significantly predicted self-efficacy. Causality (β = -.11, p = .286), External Control (β = .04, p = .667) and Personal Control (β = .02, p = .868) did not significantly predict self-efficacy. When expectations was regressed on the four attribution scales, none of the scales significantly predicted self-efficacy. Causality (β = .01, p = .948), External Control (β = .02, p = .875), Stability (β = -.12, p = .170), and Personal Control (β = -.11, p = .263) did not significantly predict expectations. Based on these results, only the Stability subscale was utilized in the main analyses.

In the first model, the five sets of variables, entered in order were: background demographics, preparation variables, stability attributions, expectations, and selected interactions. Five specific interactions were tested. First, teaching level x expectations was entered to investigate possible relationships associated with elementary, junior high and high school settings/teachers. Second, type of intervention based upon education x expectations was entered to investigate possible relationships between education based upon a risk/deficit or individualized model and a universal/general model of intervention. Third, number of BD courses x expectations was entered to investigate the potential impact of more or less education specifically addressing students who exhibit behavior disorders. Fourth, years of experience x expectations was entered to explore the potential impact of years of experience on the model.

In the first step of the hierarchical regression, the demographic variables gender, teaching level, and years of experience were entered into the equation, none of which significantly predicted self-efficacy. These variables accounted for -2% of the total variance. In the second step, the preparation variables (number of BD courses, and type of intervention based upon both experience and education) were entered, increasing the explained variance of self-efficacy with students who exhibit behavior disorders (Adjusted R^2=.03). One of the preparation variables, type of intervention based on teaching experience, significantly predicted behavior disorder self-efficacy ($\beta = .26$, $p = .005$). Specifically, teachers who espoused individualized interventions based on their teaching experience had

significantly higher self-efficacy scores (M = 6.59, SD = .99) than teachers who espoused general interventions (M = 5.86, SD = 1.47). In the third step, stability was entered into the model, significantly increasing the explained variability of self-efficacy for students who exhibit behavior disorders (Adjusted R^2=.09). The effect of type of intervention based on teaching experience persisted when stability was entered into the equation and was another significant predictor of self-efficacy (β = -.24, p = .005). In the fourth step, expectations was entered into the model, again significantly increasing the explained variance in self-efficacy with students who exhibit behavior disorders to 49%. When expectations was included in the model (β = .67, p = .001), neither stability nor type of intervention remained as significant predictors. In other words, expectations mediated the effects of both stability and type of intervention on self-efficacy. Specifically, 50% of the effect of stability was mediated by expectations.

In the last step, the five interactions were included in the model. In this step, it was found that number of BD courses taken moderated the effect of expectations on self-efficacy (β = -.15, p = .029). As depicted in Figure 2, the relationship between expectations and self-efficacy was stronger for teachers who did not take any BD courses (β = .78, p < .001) than it was for teachers who took at least one BD course (β = .45, p = .001). There were no significant relationships with any of the other moderator variables including type of education, years of experience, and teaching level.

The full model accounted for 50% of the total variance for self-efficacy with students who exhibit behavior disorders. The hierarchical linear regression results are summarized in Table 8.

Table 8

Hierarchical Linear Regression Results for Behavior Disorder Self-Efficacy (N = 154)

Variable	Step 1 β	Step 2 β	Step 3 β	Step 4 β	Step 5 β
Age	.07	.07	.09	.01	.00
Female vs. male	-.02	.04	.04	-.07	-.07
Teaching level					
Elementary vs. jr. high and high	.09	.04	.03	.09	.08
(TL1)	.06	.00	.02	.04	.05
Jr. high vs. high (TL2)	-.04	.00	.02	-.01	.01
Inexperienced vs. experienced teachers					
Number of BD courses taken		.06	.08	.05	.06
Type of intervention based on education		-.13	-.14	-.03	-.04
Type of intervention based on experience		-.26**	-.24**	-.09	-.09
Stability			-.24**	-.12	-.15*
Expectations				.67***	.64***
TL1 x expectations					.02
TL2 x expectations					.07
Number of BD x expectations					-.15*
Intervention education x expectations					.01
Teacher experience x expectations					-.04
R^2 for model	.01	.09	.15	.53	.55
Adjusted R^2 for model	-.02	.03	.09	.49	.50
F for model	.36	1.60	2.42*	14.01***	9.93***
ΔF for additional parameters	.36	3.62*	8.25**	101.09***	1.36

* $p < .05$. ** $p < .01$. *** $p < .001$.

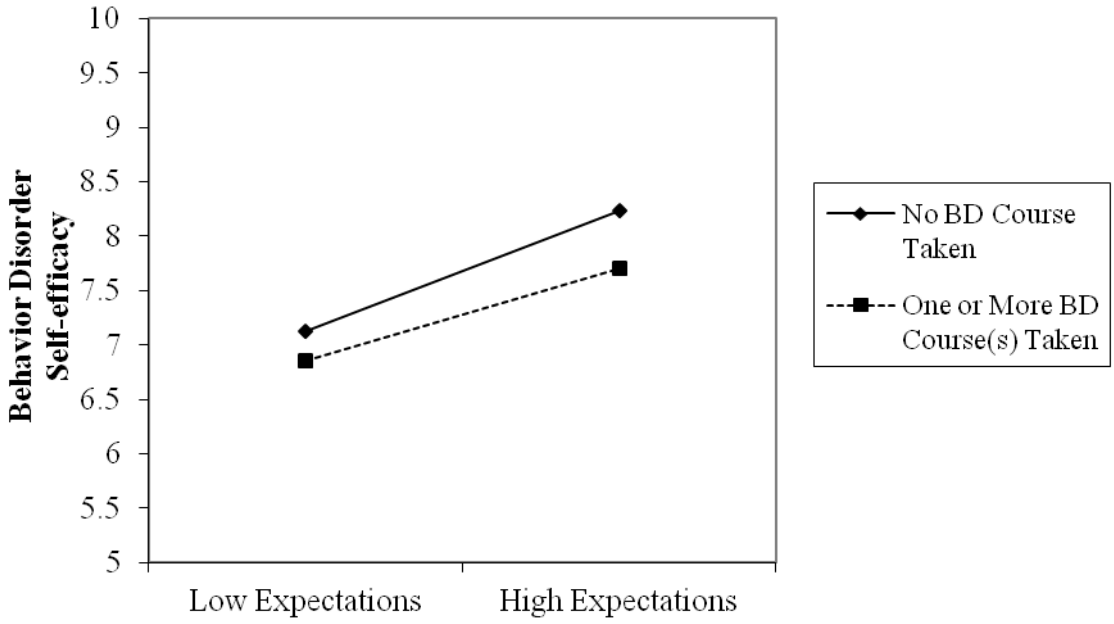

Figure 2. The moderating effect of number of behavior disorder courses taken on the relationship between expectations for amenability of behavior and behavior disorder self-efficacy.

Predictors of expectations for amenability of behavior to classroom-based interventions. Although the hypothesized model was acceptable, I chose to test the alternate model due to the uncertainty of the relationships between these variables in the literature. The same five step regression procedure was conducted using expectations for amenability (expectations) as the DV, and self-efficacy as the mediating variable. In the first step, the demographic variables were entered into the equation, none of which had a significant effect on expectations. In total, these variables accounted for -3% of the total variance. In the second step, the preparation variables were entered, increasing the explained variance of self-efficacy with students who exhibit behavior disorders (Adjusted

R^2=.06). Two of the preparation variables significantly predicted expectations. First, type of intervention based on teacher education significantly predicted expectations (β = .25, p = .007). Teachers who espoused individualized interventions due to their educational background had significantly higher expectations (M = 3.34, SD = .68) than teachers who espoused general interventions (M = 3.05, SD = .68). Second, type of intervention based on teaching experience significantly predicted expectations of amenability (β = .24, p = .010). Teachers who espoused individualized interventions based on their teaching experience had significantly higher expectations (M = 3.30, SD = .68) than teachers who espoused general interventions (M = 2.96, SD = .71). In the third step, stability was entered into the model, increasing the Adjusted R^2 to .09. The effects of type of intervention based upon education and experience persisted in Step 3 when stability was entered, and emerged as a significant predictor of expectations (β = -.19, p = .028). In the fourth step, self-efficacy was entered into the model, significantly increasing the explained variability (49%). In this step, self-efficacy significantly predicted expectations (β = .67, p = .001) and mediated the effects of type of education and stability. More specifically, type of intervention based on teacher education remained a significant predictor, although the effect was reduced, suggesting partial mediation. Type of intervention based on experience was fully mediated. Moreover, the pattern of findings indicates self-efficacy fully mediated the effect of stability, which was no longer a significant predictor of expectations (β = .03, p = .692). In fact, 84% of the effect of stability was mediated by self-efficacy.

In the last step, the interaction terms from the first model were entered. Number of BD courses taken significantly moderated the effect of self-efficacy on expectations (β = -.16, p = .023). As shown in Figure 2, the relationship between self-efficacy and expectations was stronger for teachers who did not take any BD courses (β = .82, p < .001) than it was for teachers who took at least one BD course (β = .40, p = .001). No significant relationships were found with any of the other moderator variables. A suppression effect also emerged in Step 5 because gender significantly predicted expectations (β = .14, p < .05). Male teachers had significantly higher expectations (M = 3.37, SD = .73) than female teachers (M = 3.24, SD = .68). Due to the small number of male teachers in the sample, interpretation of this finding is untenable; however, it remains an interesting question for future research. The entire model accounted for 50% of the total variance for expectations of amenability of behaviors to classroom based interventions. The hierarchical linear regression results are summarized in Table 9.

Table 9

Hierarchical Linear Regression Results for Expectations of Amenability of Behavior (N = 154)

Variable	Step 1 β	Step 2 β	Step 3 β	Step 4 β	Step 5 β
Age	.10	.10	.12	.06	.06
Female vs. male	.07	.16	.16	.13	.14*
Teaching level					
Elementary vs. jr. high and high (TL1)	-.03	-.07	-.08	-.10	-.12
Jr. high vs. high (TL2)	.02	-.04	-.03	-.04	-.02
Inexperienced vs. experienced teachers	-.03	.02	.04	.03	.03
Number of BD courses taken		.03	.04	-.01	.01
Type of intervention based on education		-.25**	-.25**	-.16*	-.17*
Type of intervention based on experience		-.24**	-.23*	-.07	-.08
Stability			-.19*	-.03	-.06
Self-efficacy				.67***	.63***
TL1 x self-efficacy					.03
TL2 x self-efficacy					-.01
Number of BD x self-efficacy					-.16*
Intervention education x self-efficacy					.06
Teacher experience x self-efficacy					.07
R^2 for model	.01	.12	.15	.53	.56
Adjusted R^2 for model	-.03	.06	.09	.49	.50
F for model	.34	2.11*	2.48*	14.12***	10.16***
ΔF for additional parameters	.34	4.99**	4.96*	101.09***	1.59

* $p < .05$. ** $p < .01$. *** $p < .001$.

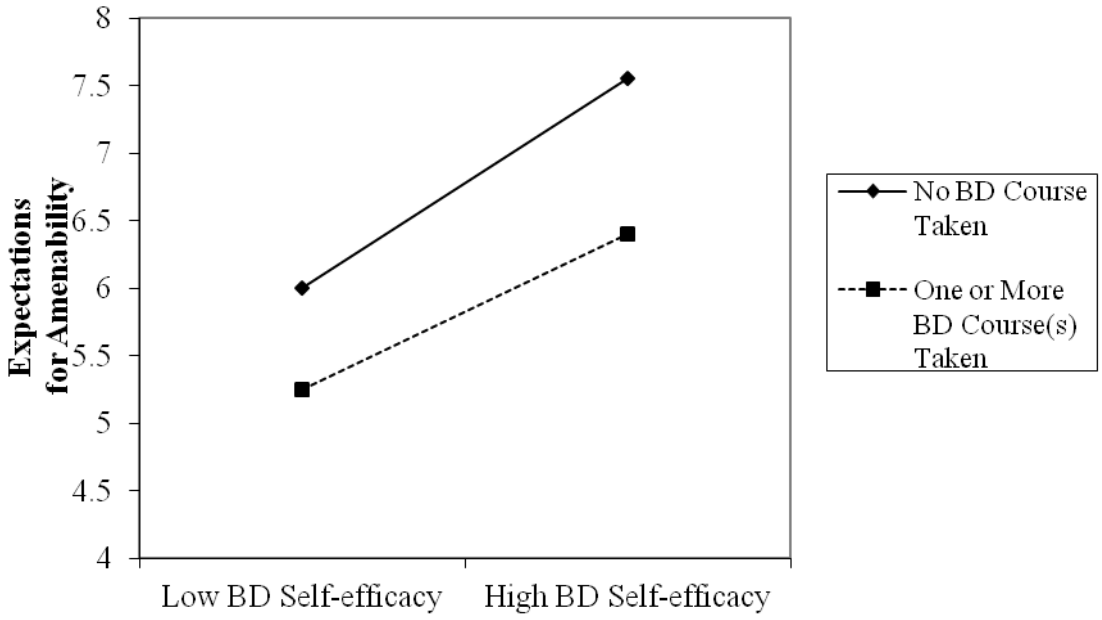

Figure 3. The moderating effect of number of behavior disorder courses taken on the relationship between behavior disorder self-efficacy and expectations for amenability of behavior.

Anecdotal Analyses

The survey included the following two open-ended questions about teacher experiences and teacher preparation regarding students who exhibit behavior disorders: "Is there anything else you would like to share about your experiences working with students who exhibit behavior disorders?" and "Is there anything else you would like to share about your teacher preparation regarding students who exhibit behavior disorders?" These questions were intended to provide context to the quantitative results by providing teachers with the opportunity to contribute any ideas or information that they felt had not been elicited through other survey questions.

Teacher Comments Related to Experience. In total, 70 teachers responded to the query "Is there anything else you would like to share about your experiences working with students who exhibit behavior disorders?" The responses were examined for common themes, and a tally was undertaken to determine the frequency of responses to the common themes. Table 10 summarizes key themes and frequencies derived from this question. Samples of teacher's exact statements (italicized) are provided to elaborate on the themes.

Table 10

Summary of Open-Ended Responses to "Experience" Question N=70

Key Themes	Number Endorsing Theme
Need for more support (e.g administrative, EA).	29 (41.4%)
Most stressful/exhausting type of student	23 (32.8%)
Other children in class suffer/safety concerns	14 (20%)
Dealing with the parents. No change/no support	14 (20%)
Need special education site/smaller classes for these students	12 (17.1%)
Not enough time to address needs	8 (11.4%)
Need collaborative approach with other professionals	8 (11.4%)
Students should have one-on-one from adult/counseling	7 (10%)

Need for more support. Teachers who endorsed this response generally expressed the belief that they did not have adequate teacher preparation, administrative support, or in-class support to assist them in successfully working with students who exhibit behavior disorders.

> *I feel that inclusive education is important and has a place, but I also feel that more supports need to be in place in the classroom. I often struggle with the time and energy I often have to take away from the rest of my students to give to the students exhibiting behavior disorders. When I began teaching I really thought inclusive was the way to go in most every situation, but I now find myself wondering who will stand up for the rest of the students in the classroom who tolerate these behaviors every day.*

> *Without the necessary supports in place, even the best and most seasoned teachers will not succeed with our B.D. students.*

> *Children with behavior disorders adversely affect the whole classroom and all the students. Support for the teachers, student and their family needs to be available immediately so that everyone does not suffer. I have had students with serious problems and have not been able to get any help for months.*

Working with children who have diagnosed severe behavior disorders is different than working with children who exhibit behavioral problems. Overall, I found that unless the child has an EA assigned to help monitor the child closely and intervene while the teacher continues to teach, that managing this one child is very challenging and time consuming. Such children should never be placed in a typical elementary classroom without support from an EA trained to deal with such children. Without support the teacher cannot teach and the other children cannot learn because of the constant disruptions and outbursts.

Most stressful/exhausting type of student. Teacher responses clearly indicated that working with students who exhibit behavior disorders was extremely stressful for classroom teachers.

Behaviors are often very hard to deal with in a regular classroom setting. The students can be disruptive and can require so much energy from the teacher leaving you feeling drained and the teacher with little energy to help the other students.

Although I believe that you can create an inclusive classroom where these students can feel success, and behaviors can be reduced; there is still a constant strain on both the teacher and the other students. Because these students are unpredictable at times, students and staff are always on edge -

waiting. I also believe that when the student is having an off day, huge amounts of energy and time are taken away from the other students.

Most teachers feel overwhelmed by someone with severe behaviors. Even if they don't and could deal with most issues effectively, they don't have the time or energy - especially with so many other students in their class needing assistance.

It is very challenging, disruptive, and exhausting.

Overall, the inclusive behavioral model for children with severe behavior disorders has been a complete failure both in terms of the child's academic progress and that of the other students. Rightly so I think, one parent described the class I was about to teach as a " toxic learning environment" for her child as a result of the inclusion of children with behavioral problems in her daughter's class. The current inclusive model of special education in my school system has not served the child with severe behavioral problems at all well. In fact, the fact that generalist elementary teachers are now expected to do the job of special education teachers, is one reason I now discourage young people from entering the teaching profession when asked my opinion. It is simply too stressful and discouraging to try to be all things to all children no matter what their needs.

The opinion that students with behavior disorders cause the classroom teacher a great deal of stress was held by both mainstream teachers, and teachers who identified themselves as teachers teaching congregated classes specifically for students exhibiting behavior disorders.

> *I have really enjoyed working with students in my BLA class. However, there was a period of time for several months where due to the combination of students and without outside support, some behaviors were unmanageable and disrupted the learning of others.*

> *I love my job teaching a Special Ed. class and I wouldn't trade it for anything, but it is draining and there are very few supports for teachers and families within the school system.*

Not enough time to address needs. Teacher responses suggested a lack of time to address the needs of students with behavior disorders in already stretched classroom environments.

> *Although it is very rewarding to see improvements in a child, it requires constant, consistent intervention and management with the child and constant communication with his/her parents to be effective. It is extremely difficult to adequately provide this in a classroom setting when there are so*

many other needs and demands on the teacher, in addition to trying to teach curriculum. Limited one on one time, prep time and resources seem to make progress extremely difficult with most students who exhibit behavior disorders. Adequate staffing and time to spend with children with behavior disorders seems to be crucial but lacking.

When I have a class of 30 grade 7s, and their other teachers tell me I have all kinds of disorders in there and should read their files...I truly do not have time for that or time to consider 10 different plans.

My heart goes out to these students, but as a beginner teacher it is really hard to find the balance between teaching all of the curriculum to the other 30 students in class and caring for each of them individually.

Other children in class suffer/safety concerns. Teachers reported safety concerns for both the teacher and other students, and described the negative impact student behavior disorders have on the learning of others in the classroom.

Students that exhibit behavior disorders can be the most stressful students to work with, as I must worry about the safety of all children in the room. These students can make other children anxious and less willing to take risks in their learning.

Children with behavior disorders adversely affect the whole classroom and all the students.

Any one child should never take away another child's learning opportunities, no matter the situation. We are then suggesting to the other students that their learning is not as important as assisting someone else to have a 'regular' educational experience. .

They are very disruptive to the class and affect the learning and safety of the other children and myself.

I find that few people in the system understand what it is like to be afraid for your own safety or the safety of other students. I do my best with what I have but must be honest that there have been many times in my career that I have feared for what might occur. The problem is that many of these students can become very violent in a matter of seconds.

Too often I feel that one or two students in an inclusion-based class dominate and take time away from the learning experiences of the remainder of the class. This is not fair.

Difficulties with parents. Teacher responses suggested a strong belief that behavior disorders in students were difficult to address due to continuing home difficulties and lack of parental support.

> *I believe that children are a function of the way they have been raised, specifically the effect that the adults in their lives have had on them. Unfortunately, virtually 100% of students with behavior problems in school come from families with severe issues. I think that teachers fight a ridiculously difficult uphill battle as we provide a nurturing environment for these students, while their families are unable/unwilling to. All we can do is continue to build positive relationships with these kids, but in my opinion, it's to the point of being social epidemic and is going to continue to become an increasingly greater problem for our nation.*
>
> *Parenting is 99% of the issue.*
>
> *I can only do so much in the classroom and, unless the child and the family are getting effective therapy, I am fighting a losing battle.*
>
> *I have found that a number of students with behavior disorders are students who have learned these behaviors as a way of coping at home. Many times I feel like I can make progress at school only to have squashed with a weekend at home. Also, I think that a lot of parents who have behavior*

students at home are "burned out" and really are at their wits end as far as dealing with some of the more severe behaviors. Having said that I do believe that a lot of these students are indulged at home and have no idea how to compromise, share, or show empathy, but there are always exceptions.

I have found that some parents are very willing to be on board and others do not have any interest. It is frustrating to see parents resist and make the same mistakes over and over and to see the child exhibit more behaviors and to know that as they get older it will be worse.

Need collaborative approach with other professionals. Teacher responses suggested that a collaborative, multi-context approach should be an essential component of an effective approach in working with student behavior disorders.

A collaborative approach between school, family and community resources has been most successful. There needs to be a time accommodation made to ensure that this happens for teachers.

I have found that when I have a good relationship with the b.d. child's care-giver, I have very good success with his/her child. This has been the case at this school. I often phone the child's parent or meet with him/her when he/she picks the child up. This constant communication has been a

tremendous influence on changing the child's behavior. Another crucial part of the success I have had is the support I receive from colleagues. When I need a place to put the child, it is extremely helpful to have a colleague who will take him/her into their class at any moment of the day. I also think that the extra support of community agencies and the school psychologist is key to any lasting changes for the child. I can only do so much in the classroom and, unless the child and the family is getting effective therapy, I am fighting a losing battle. To sum this all up: I am only one piece of a very intricate puzzle and unless I have a great deal of support, I can do very little for a child with severe behavior disorders

Need congregated special education sites. Congregated special education sites were reported to be the preferred environment for students exhibiting behavior disorders by both mainstream and special education teachers.

I strongly believe that students in my BLA class feel better about themselves partly because they aren't compared with regular kids by themselves or others. I also think it is easier to implement strategies in a BLA classroom partly due to smaller number of students, an extra body, and students with similar needs. There is greater consistency throughout the day with staff, especially at lunch and recess. Students can be required to behave to

participate in activities. It's hard to do that in a regular class. It's hard to provide extra supervision and support in a regular class.

When I had a student with a severe behavioral disorder, it was a very painful experience for both myself and him, because I did not feel I had the strategies/time to give him what he needed. I needed additional help and support, and so did he. I think he would have performed much better in a small-group setting with people who were better trained to deal with his needs.

Classrooms are already stretched as is. Sites offer an opportunity for individualized and specialized help with trained professionals.

Teacher Comments Related to Teacher Education. In total, 77 teachers responded to the query "Is there anything else you would like to share about your teacher preparation regarding working with students who exhibit behavior disorders?" The responses were examined for common themes, and a tally was undertaken to determine the frequency of responses to the common themes. Table 11 summarizes key themes and frequencies derived from this question. Teachers' exact statements (italicized) are provided to elaborate on the themes.

Table 11

Summary of Open-Ended Responses to "Education" Question, N=77

Key Themes	Number Endorsing Theme
University-based teacher preparation was inadequate	54 (70.1%)
Need more hands/on and practical preparation (less theory)	16 (20.7%)
Most valuable preparation was acquired outside of university	11 (14.2%)
Need to learn specific strategies	10 (12.9%)
Teacher preparation needs to be ongoing (preservice/inservice)	4 (5.1%)

University based teacher preparation was inadequate. Teachers who endorsed this response generally expressed the belief that their university-based teacher preparation with regard to students who exhibit behavior disorders was inadequate, and did not prepare them for working these students in the classroom.

> *Teacher preparation in University is not currently meeting, addressing, or preparing a teacher for the challenges they will face when they actually assume responsibility of any classroom where there are behaviorally challenged/coded and non coded students. New teachers and even established mainstream teachers are extremely ill-prepared for the disruption, physical and mental exhaustion and abuse, management skills, and organization that will be required of them in teaching these students.*

I went through elementary special ed. The prep. was woefully inadequate. I was reasonably sure my foot in the door would be teaching BD kids, so I asked a lot of questions. I didn't feel they were particularly answered.

The university does not prepare for the reality of inner city, disadvantaged, or students with disabilities, whether learning or behavior disorders.

When I went to University, there was no such preparation for the demands of teaching students with the needs I came to face out in my career.

It was only in student-teaching that I had my trial-by-fire dealing with crazy students. I think classroom management skills were poorly taught in university and that they should seriously consider increasing the time spent on that subject

The severe behavior management class that I took in university was more harmful than helpful and was best disregarded.

Need more hands-on, practical preparation/less theory. Teachers who endorsed this response generally expressed the belief that their university-based teacher preparation was too theoretical in nature, and not applicable to the real experiences they face in the classroom.

Really inadequate because it was too general and not practical. Very theory-based.

I don't feel as though the University prepares upcoming teachers for their role and responsibility in a special needs classroom. There should be an opportunity for "special education" students to observe in a variety of special needs classrooms (interactions, behavior & learning assistance, opportunity, literacy, cls etc.). They should also have a mentor when placed in these teaching assignments. There needs to be a more practical approach for special education minors.

I found very little of my university courses effective in the "real" world. Too much theory and not enough practical applications. It's good to know what the disorders are but it's more important to know how to set up the classroom and programming to help minimize the disruptions these children will cause.

I really felt that it didn't provide any hands-on learning. What a behavior disordered student responds to in a text-book is not at all what they are responsive to in real life.

Most valuable preparation was acquired outside of university. Teachers suggested that the most valuable education they received happened after

university graduation, through experience and the assistance of colleagues and other specialists.

> *I found that the classes I took in my university degree at the U of -- did not prepare me to handle the diverse range of behaviors exhibited by students. I learned on the job, from my colleagues and through trial and error. I strongly feel that more classes should be offered to help prepare future teachers for their careers, as "regular" classrooms have students with behavior issues, not just special needs classes.*

> *The university's practices are dated at best. I refer to my undergraduate degree as nothing more than an invitation to the teaching profession. All of my real learning has been done in the school using colleagues, PD sessions, and various other resources*

> *I learned virtually all my strategies from a master teacher at my school and was not well-prepared at all from my BEd program.*

> *I believe that my university education did not really prepare me for the realities of children with severe behavior disorders. Anything I have learned, I have learned from experience or from other staff members.*

Need to learn specific strategies. Teacher preparation including specific strategies was suggested by a number of teachers.

> *Not enough specific examples in dealing with behavior disorders is taught in University BEd classes. The theory is taught but is not applicable like specific strategies would be.*

> *There was no "one course" on dealing with behavior disorders. The courses were more general with regard to classroom management. Ed Students today would be better equipped to deal with general classroom management if they were taught specific strategies to deal with behavior disorders in university.*

> *I think teachers should be given hands on practice on how to develop intervention strategies & specific consequences for students actions as well as specific examples of strategies & consequences to use; specifically to deal with lying, stealing, bullying, aggressive & manipulating behaviors.*

Teacher preparation needs to be ongoing - preservice/inservice. Teacher comments indicated the need for ongoing preparation and education in the area of behavior disorders.

Teacher and educational assistant training needs to be ongoing, not just one course offered through the special education route for teacher training that is not available to all teachers.

I do not think that pre-service teachers have sufficient support in dealing with behavior issues. I also believe that you can't know what to do until you are dealing with it - therefore new teachers need a great deal of support from administration and mentor teachers. Most teachers feel overwhelmed by someone with severe behaviors. Even if they don't and could deal with most issues effectively, they don't have the time or energy - especially with so many other students in their class needing assistance.

There could be more direct training and experience within the behavior classrooms.

Discussion

Drawing on Weiner's (1985) conceptual framework, I constructed a model to explore the manner in which teacher attributions for behavior disorders may operate to affect teacher expectations about the success of classroom interventions, and subsequently, teacher beliefs about their self-efficacy working with students who exhibit behavior disorders. The data from the current sample did not support my initial hypothesis that locus of causality attributions would predict self-efficacy through their effect on teacher expectations. Instead, stability attributions were found to significantly predict self-efficacy, and were thus the focus of the main analyses. Because attributions, expectations, and efficacy have not previously been empirically explored in relation to students who exhibit behavior disorders, an alternative model in which attributions predicted efficacy, and in turn expectations, was also tested.

This discussion will focus on the hypothesized model in which self-efficacy was the dependent variable. This decision is based upon the congruence of this model with attribution theory, in which attributions are purported to predict expectations, and subsequently guide behavior (Weiner, 1985, 2010). Further support for this choice is provided in the literature, which has identified self-efficacy as a good predictor of actual behavior (Bandura, 1997), a critical factor in many meaningful outcomes for students and teachers (Anderson et al., 1988; Midgley et al., 1989; Soodak & Podell, 1993; Tschannen-Moran & Woolfolk-Hoy, 2001), and essential for effective intervention with students who exhibit behavior disorders (Frey, 2002).

I will elaborate seven points that warrant deeper exploration and comment based on their relevance for understanding teachers' perspectives about students who exhibit behavior disorders, and increasing expectations and teacher efficacy with this population. The first four pertain to preliminary analyses that give context to the sample. First, because the main analyses focused on self-efficacy specifically for students exhibiting behavior disorders, the significant differences between teachers' self-efficacy for general education students versus students who exhibit behavior disorders is discussed. Second, as mentioned above, stability emerged as the significant attributional dimension, and its relationship with efficacy is explored. Third, although according to attribution theory, the dimension as opposed to the actual cause, is most important in explaining outcomes, my data allows me to comment on the causes teachers tended to rate as more or less stable. Specifically, stability was strongly attached to biological and personality causes and least strongly attached to family and social causes, a pattern that may have implications regarding teacher self-efficacy. Fourth, still considering teachers' attributions for behavior disorders, I discuss the endorsement of various causes for student behavior disorders reported by teachers, focusing on their alignment with previous research, their potential relationship with self-efficacy, and their relevance for teacher education.

The remaining discussion points focus on the main research questions. Thus, the fifth point for consideration focuses on the direct relationships between attributions, expectations, and self-efficacy as proposed in my original model. The relationships will be considered in light of their synchrony with attribution theory

and implications for teacher self-efficacy and teacher education. Sixth, interaction effects will be discussed. Specifically, four potential moderators of the main model were tested, however three of these variables did not have a significant relationship with the main model variables. Preferred intervention based upon education, teaching experience, and teaching level, although not significant, will be discussed in terms of their relevance for teacher education and future self-efficacy research. Tests of interaction effects identified one moderator of the relationship between study variables: number of behavior disorder courses taken. However, this moderator operated on the variables in a paradoxical manner. One possible interpretation of this finding will be suggested. Seventh, teacher free responses reflected a number of workplace concerns previously reported in literature in the area of teacher beliefs about their work with students who exhibit behavior disorders. These responses highlight the need to assess the influence of these workplace factors on teacher self-efficacy, and will be discussed relative to implications for future self-efficacy research.

Self-Efficacy for General Compared to BD Students

For teachers in this study, beliefs about self-efficacy for students who exhibit behavior disorders were significantly lower than beliefs about self-efficacy for general education students. As self-efficacy is perceived as being a multi-dimensional construct (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998), it is important to note that these lower self-efficacy beliefs were consistent across all dimensions of teacher efficacy, including efficacy for instructional strategies, student engagement, and classroom management. This finding is consistent with

literature indicating that teachers find these students difficult to teach (Sutherland, Lewis-Palmer, Stichter, & Morgan, 2008), however, based upon my review of the literature, this study appears to be the first to explicitly explore differences between teacher self-efficacy beliefs for these two groups of students. It may be important to recall that one school district declined inclusion of the self-efficacy questionnaire for students who do not exhibit behavior disorders, suggesting that this comparison may be a sensitive issue for some school administrators. Nevertheless, this finding prompts discussion around several possible reasons for these beliefs, provides important information about domain-specific self-efficacy, and provides impetus for improved teacher education in this domain.

Reasons for lower efficacy beliefs. Self-efficacy literature suggests that this lower assessment of teaching capabilities for students who exhibit behavior disorders is not surprising. Welch (1995) asserts that activities requiring greater skill, or having greater consequences, exert a stronger influence on self-efficacy. For teachers in this study, both of these characteristics may be applicable to their experiences. Free responses clearly indicated that teaching students who exhibit behavior disorders requires a special subset of skills that most respondents felt they did not possess. Furthermore, teacher comments indicated that the presence of these students introduced safety concerns into their teaching environment, suggesting the possibility that ineffective intervention could have serious consequences. Likewise, teacher free responses in this study indicated a number of concerns regarding inclusive policies and practice as related to students exhibiting behavior disorders. Literature provides some evidence that teacher concerns about

student behavior increase with greater classroom diversity (Safran & Safran, 1985), such as the heterogeneity found in an inclusive classroom environment. This may be reflected in participants' lower self-efficacy ratings for students exhibiting behavior disorders.

As academic and cognitive delays are not necessarily a part of the diagnostic criteria for behavior disorders (Alberta Education, 2011; American Psychiatric Association, 2000) it is interesting to note that teachers hold lower self-efficacy beliefs in the instructional strategies domain, a domain related to academic performance. Although researchers have found reading difficulties and language delays, in particular, to be associated with behavior disorders (Short & Shapiro, 1993; Webster-Stratten, 1993), it is also conceivable that this finding could be related to self-efficacy literature which suggests that, for low self-efficacy teachers, one student characteristic will dominate perceptions and this characteristic will determine teachers' predictions about student success (Tournaki & Podell, 2005). For students exhibiting behavior disorders, it is plausible to assume that the behavior disorder would emerge as the most salient characteristic of the student, and thus a potent factor in influencing teachers' corresponding feelings of self-efficacy in all dimensions.

Domain specificity. As Bandura (1986) suggested, self-efficacy is a domain-specific construct, thus teacher confidence can vary depending upon the specific skill required. This was reflected in the comments of one teacher who queried,

Teachers get to specialize in their subject areas of expertise because we all have our strengths. What happens to the child if the teacher's strength is not behavior modification, is that serving the child and best meeting their needs? Should the teacher just be expected to get better at it? Is it okay to not have those skills but be a great Language Arts teacher?

Although the majority of research has assessed teacher self-efficacy in general, there have been calls to explore context or domain-specific self-efficacy (Emmer & Hickman, 1991; Klassen et al., 2011). The findings from this study provide evidence that this sample of teachers does not feel as capable of teaching students exhibiting behavior disorders as they do with students who do not exhibit behavioral difficulties. Literature suggests that this finding could be generalized to other teachers (Brouwers & Tomic, 2000; Sawka et al., 2002; Sutherland et al., 2008) and may thus have significant implications for education and inclusion of these students. As teachers with a strong sense of self-efficacy have been found to be more supportive of inclusive practices (Soodak & Podell, 1993) and more willing to adapt their teaching methods to meet individual student needs (Soodak & Podell, 1993; Stein & Wang, 1998), this finding supports calls to renew a focus on how teacher efficacy can be fostered by teacher education programs (Klassen et al., 2011) and recommendations for improved teacher preparation in this domain (Andreou & Rapti, 2010; Wagner et al, 2006).

Implications for teacher education. Finally, according to the teachers' free responses, relatively low self-efficacy ratings for students exhibiting behavior

disorders may, at least partially, be the result of inadequate pre-service preparation both in terms of number of courses and course content. As one teacher summarized,

> *Teacher preparation in University is not currently meeting, addressing, or preparing a teacher for the challenges they will face when they actually assume responsibility of any classroom where there are behaviorally challenged/coded and non coded students. New teachers and even established mainstream teachers are extremely ill-prepared for the disruption, physical and mental exhaustion and abuse, management skills, and organization that will be required of them in teaching these students.*

Although general education teachers queried the possibility that educational deficits may have been due to their lack of "special education" preparation, special education teachers also expressed the opinion that they felt unprepared for teaching this population of students. Literature does support teacher free responses by illustrating that neither special nor general education teachers believe their education prepared them to intervene with behavior disorders (Buchanen et al., 2009; Justice & Espinoza, 2007; Sawka et al., 2002; Wagner et al., 2006). In general, teachers have been demonstrated to possess a limited repertoire of behavior management techniques and a limited understanding of behavioral principles necessary for designing an effective educational environment for students exhibiting behavior disorders (Arcia et al.

2000; Bibou-Nakou et al.,1999, 2000), thus likely contributing to diminished efficacy.

Stability Attributional Dimension and Self-Efficacy

I had expected that locus of causality (internal/external) attributions would be associated with feelings of self-efficacy based upon literature in the area of teacher and care staff attributions (Brown & Rogers, 1991; Dagnan et al., 1998; Georgiou et al., 2002; Tollefson & Chen, 1988; Weigal et al., 2006) and the medical model that is currently utilized for assessment, diagnosis, and coding purposes in schools (Alberta Education, 2011; American Psychiatric Association, 2000; Wishart & Jahnukainen, 2010). The data for the present study did not support this predicted relationship. Instead, stability attributions emerged as significantly and negatively related to efficacy. This finding suggests that when teachers believe that the cause of the student behavior is stable, feelings of self-efficacy are diminished. Conversely, when the cause of behavior is believed to be variable, or unstable, feelings of self-efficacy are strengthened.

Based upon my review of the literature, this is the first study to establish a link between any attributional dimension and teachers' beliefs about their self-efficacy regarding students who exhibit behavior disorders, therefore my comments on the relationship are speculative. With that caveat in mind, considering that self-efficacy has been described as one's conviction that one is able to execute a behavior to produce a desired outcome (Ashton & Webb, 1986; Gibson & Dembo, 1984), it is logical that beliefs about the stability of a cause might negatively impact self-efficacy. Specifically, teachers may be oriented towards intervention only if

they believe the intervention will be successful. Teachers who believe the cause of a behavior disorder is unchangeable or stable have little reason to think interventions will be successful, likely diminishing their feelings of self-efficacy. This interpretation is consistent with both self-efficacy theory (Bandura, 1997) and attribution theory (Weiner, 1985) in suggesting that motivation and beliefs about potential success are critical in individuals' decisions about their own actions. Literature in the area of self-efficacy and attributions has confirmed that individuals will avoid activities when they do not expect to experience success (Pajares, 1996), but will work hard within a given system as long as the possibility of success exists (Reicher & Haslam, 2006; Wright, Taylor, & Moghaddam, 1990). When avenues for success are perceived to be closed, individuals may then re-channel their energies in a different direction, such as avoidance, denial, or resistance (Reicher & Haslam, 2006). Teachers' free responses in this study appear to reflect feelings of resistance and avoidance, possibly providing further evidence in support of this interpretation.

Stability as Reflected in Biological, Personality, Family, and Social Causes

The stability dimension was reflected in varying degrees amongst the six causes of behavior disorders teachers selected in their survey responses (recall that teachers were provided the choice of biological, school, social, family, personality and other factors as primary causes of behavior disorders). Consideration of the actual causes aligned with the stability dimension may shed light on teachers' lower self-efficacy beliefs with this population of students, and in turn, appear to offer valuable information for in-service and pre-service teacher educators.

Biological and personality attributions and stability. Stability was most strongly characterized by attributions to biological and personality causes. These causes were also considered to be more internal to the child, and less controllable by others. Considering that the stability dimension emerged as the dimension most strongly associated with expectations and self-efficacy in this sample, this finding suggests that a large number of teachers (26.6% of respondents combined) may perceive the cause of student behavior disorders to be stable, and thus hold lower expectations and efficacy beliefs. Previous literature suggests that these biological and personality attributions could be generalized to a larger group of teachers (Andreou & Rapti, 2010; Arcia et al., 2000; Bibou-Nakou et al., 2000; Erbes et al., 2009; Ho, 2004; Kulinna, 2008; Mavropoulou & Padeliadu, 2002; Soodak & Podell, 1994) having serious implications for efficacy beliefs regarding this population of this students.

This finding emerges as relevant for teacher educators with respect to improving teacher efficacy with this population of students, particularly when considered with recent research in the area of epigenetics, or the biopsychosocial model of development. Specifically, researchers have recently identified a number of gene variants that can increase an individual's susceptibility to developing antisocial behaviors, conduct disorders, ADHD, or violent behaviors. In this respect, teachers' biological attributions may be somewhat accurate. However, the critical finding relative to teachers' beliefs about the stability of these attributions, is that researchers have discovered that these behaviors are expressed only if the individual carrying the gene variant is exposed to certain environmental conditions

in childhood (Bakermans-Kranenburg & Van Ijzendoorn, 2011; Bakermans-Kranenburg, Van Ijzendoorn, Pijlman, Mesman, and Juffer, 2008; Boyce & Ellis, 2005; Dick et al. 2011). This research conceptualizes these disorders as products of gene-environment interactions, and suggest that the environment, particularly the social environment, influences brain structure, activation patterns, neurogenesis, and gene expression (Davidson, Pizzagalli, Nitschke & Kalin, 2003; Meaney, 2001). In this way, perhaps teachers' interpretation of biological causes as stable is only partially correct. Of particular interest is research which has indicated that, although these genes are potential liabilities, they are also possible solutions. The same genes that predict predisposition under negative circumstances, can lead to enhanced functioning and increased possibility when the child is exposed to favorable developmental contexts (Bakermans-Kranenburg & Van Ijzendoorn, 2011; Bakermans-Kranenburg et al., 2008; Boyce & Ellis, 2005; Dick et al. 2011). Thus, although heritable influences are present, environmental influences, particularly when they occur repetitively over time, can create lasting changes in the brain (Dodge & Petit, 2003; Hartup, 2005). Unfortunately, teacher responses in this study do not appear to reflect this current knowledge, instead, biological attributions are regarded as being stable and less responsive to outside influence.

Perhaps one of the reasons teachers make this fundamental attribution error, where the contribution of internal, dispositional factors is overestimated, and the contribution of situational factors is underestimated (Jones, 1979) is that teachers in this study reside in an educational system in which coding, funding and programming is based upon a medical model (Alberta Education, 2011). This

medical model for coding under the category of Severe Emotional/Behavioral Disorder requires a "clinical diagnosis within the last two years of a severe emotional/behavioral disorder by a psychiatrist, registered psychologist, or a developmental pediatrician" (Alberta Education, 2011). Coding and funding is then applied, and intervention is determined based upon the diagnosis. As Wishart and Jahnukainen (2010) and Jacobs and Wachs (2002) note, the medical model of diagnosis and intervention for students with emotional and behavioral disorders tends to pathologize the child, and neglects the role of environmental factors contributing to the behavior disorder. Consequently, teachers may then perceive the cause of the behavior as being more internal to the child, less responsive to environmental influences, and by extension, more stable.

At the present time, researchers in the field of aggression and behavioral disorders regard parenting as a nutrient (Tremblay & Cote, 2005), recognizing the transformative potential of environmental influences on the developing person (Bakermans-Kranenburg et al., 2008; Boyce & Ellis, 2005; Dick et al. 2011). When considering the amount of time children spend in school, it is reasonable to assume that teacher-student relationships also have this potential to strongly influence development, and modify biological predisposition. As teacher education has been associated with teacher attributions in the area of behavior disorders (Erbas et al., 2010), it is plausible to suggest that increased education about the instability and environmental sensitivity of these genetic influences may serve to increase teacher optimism and efficacy regarding school-based intervention for students exhibiting behavior disorders.

Family and social attributions and stability. Family and social causes were considered by respondents to be less stable and more controllable by others. Considered with the finding that less stable attributions were associated with stronger feelings of self-efficacy, this might imply that teachers with family-based attributions have the potential to feel more efficacious with students exhibiting behavior disorders. Although this relationship was not explored in the current study, recent literature suggests that this may not be the case, and thus warrants some discussion. Research has found that family-based attributions are not associated with choice or implementation of classroom-based interventions even when teachers report high self-efficacy (Andreou & Rapti, 2010). Knowing that teachers tend to select interventions based upon their attributions for behavior disorders (Andreou & Rapti, 2010; Arcia et al., 2000; Bibou-Nakou et al., 1999; Jordan et al., 1993; Soodak & Podell, 1994), one might then speculate that family-based attributions would lead teachers to initiate family-based intervention. However, Kulinna (2008) found that teachers' family-based attributions were not necessarily matched by related strategies such as contacting the parents. When considered with findings from the present study, it is possible to infer that, although teachers recognize the impact of the family on these disorders, and perceive family attributions to be less stable, they do not believe that family involvement initiated by the school will be successful. According to teachers' free responses in this study, this may be due to teachers' perceptions that families are both a critical factor in the evolution of behavior disorders, and an impediment to the school's ability to work with these students in the classroom. Teacher comments such as

"Many times I feel like I can make progress at school only to have it squashed with a weekend at home" and "I think that teachers fight a ridiculously difficult uphill battle as we provide a nurturing environment for these students, while their families are unable/unwilling to" suggest that beliefs about the families of these students may further intensify teacher feelings of helplessness, depress expectations regarding successful intervention in the school environment, and contribute to low self-efficacy beliefs. Therefore, although considered to be less stable and by extension more open to change, literature suggests that family-based attributions do not necessarily translate into teachers believing they are responsible for, or able to elicit, said change.

Presumably the primary reason for studying the influence of attributions on teacher self-efficacy is because teacher self-efficacy has been shown to lead to meaningful educational outcomes. However, this discussion suggests that this may not always be the case, particularly when family attributions predominate. Recalling that 54% of teachers in this study espoused family-based attributions, this emerges as a potentially significant. Although not a part of the main analysis, further examination of respondents' causal attributions appears to illustrate a causal attribution pattern that reflects previous research conducted in various countries and cultures. The consistency of this identified pattern within the research base, suggests that it warrants exploration and discussion due to its potential to nurture a deeper understanding of teacher efficacy with this population of students.

Causal Attributions for Behavior Disorders

Teacher respondents were asked to identify their belief about the primary cause of behavior disorders in students, and then rate the cause according to the attributional dimensions. Although the actual causes chosen were not formally included in the main data analysis, they appear to reflect an attributional pattern relevant to teacher expectations and self-efficacy with students who exhibit behavior disorders.

Previous research. From the six possible causes provided, "family" (54.5%), "biological" (21.4 %) and "personality" (5.2%) factors together comprised 81.1% of responses, whereas not one respondent identified school factors. This supports previous research conducted in various cultures and countries, in which teachers consistently rate family and pupil factors as the primary causes of childrens' behavior disorders, and reject school factors as playing a role in the emergence of behavior problems (Andreou & Rapti, 2010; Arcia et al., 2000; Bibou-Nakou et al., 2000; Christenson et al., 1983; Erbes et al., 2009; Ho, 2004; Kulinna, 2008; Guttman, 1982; Mavropoulou & Padeliadu, 2002; Soodak & Podell, 1994). The pedagogical danger of these findings is evident. By excluding the educational environment as a possible cause, teachers may alter their actions, intervention, perceptions of control, and expectations, thereby limiting the educational experiences of students who exhibit behavioral disorders (Andreou & Rapti, 2010; Bar-Tal, 1982; Butler, 1994; Kulinna, 2008; Mavropoulou & Padeliadu, 2002; Reyna, 2000). As Poulou and Norwich (2000) state:

> Teachers' ideas about the causes of students' behavior in turn affect the attitudes they adopt towards their students, their dispositions, and the eventual decisions to help them overcome their difficulties. The extent to which they believe that they are capable of influencing students' performance, affects their enthusiasm and persistence in working with them. (p.560)

Therefore, when student behavior problems are perceived to be based within the family or the child, and school factors are not believed to play a causal role, teachers may feel that classroom-based interventions will ultimately have little influence in shaping the behaviors. Likewise, they may feel less efficacious with respect to their own ability to teach these students.

It is important to acknowledge that perhaps the teachers' family-based causal attributions are accurate, however their rejection of the school as a critical context may not be. Literature has clearly identified a number of family factors that contribute to the development of behavior disorders in children including a lack of positive parental involvement in the child's activities (Frick, 1993; Kazdin, 2001; Pettit, Dodge, & Bates, 1993; Webster-Stratten, 1993); lack of parental supervision and failure to monitor behaviors (Fergussen & Lynskey, 1998; Frick, 1993; Kazdin, 2001; Maughan, 2001; Vance, Fernandez, & Biber, 1998; Webster-Stratten, 1993); lack of appropriate and positive interpersonal skills and behaviors (Kazdin, 2001; Maughan, 2001; Webster-Stratten, 1993), violent, critical, harsh, permissive or inconsistent discipline (Frick, 1993; Kazdin, 2001; Maughan, 2001; Pettit et al., 1993; Short & Shapiro, 1993; Webster-

Stratten, 1993); parental psychopathology (Abidin, Jenkins & McGaughey, 1992; Frick, 1993; Maughan, 2001; Webster-Stratten, 1993;); emotional unavailability and poor parental attachment (Fergussen & Lynskey, 1998; Maughan, 2001; Webster-Stratten, 1993); parent antisocial behavior (Frick, 1993; Kazdin, 2001; Maughan, 2001; Short & Shapiro, 1993; Webster-Stratten, 1993;); parent substance abuse (Frick, 1993; Kazdin, 2001; Short & Shapiro, 1993; Webster-Stratten, 1993) and the parents' marital relationship (Abidin et al., 1992; Frick, 1993; Kazdin, 2001; Maughan, 2001; Webster-Stratten, 1993). However, one of the most robust findings in the literature highlights the continuous, complex interplay between the developing child and the all of the contexts in which he resides (Bronfenbrenner, 1979; Kimonis & Frick, 2010; McKinney & Renk, 2007). As such, schools have been identified as key venues for intervention due to the opportunities they provide for reaching large numbers of students (Farrell, Meyer, Kung, & Sullivan, 2001) and their impact on the cognitive, academic, behavioral, and social correlates associated with the developmental pathway of these disorders (Guerra et al., 2005). Indeed, a number of school factors have also been associated with student behavior disorders, including poor academic performance (Maughan, 2001; Short and Shapiro, 1993; Webster-Stratten, 1993); poor peer relationships/perceptions (Maughan, 2001; Pettit et al., 1993; Vance et al., 1998; Webster-Stratten, 1993); inconsistent classroom and school behavior management (Maughan, 2001; Wehby et al., 1998); reactive intervention (Lerman & Vorndran, 2002; Maag, 2001; Rosenblatt & Rosenblatt, 1999); staff competence (Cheney & Barringer, 1995; Gibb et al., 1999; Maughan, 2001;

Shapiro et.al, 1999; Wehby et.al, 1998); lower educational expectations (Whitley, Lupart, & Beran, 2009); and ineffective classroom interventions/limited repertoire of behavior management strategies (Arcia et al., 2000; Bibou-Nakou et al., 2000; Gresham, 1998; Maughan, 2001; McConaughy & Kay, 1998; Wehby et al., 1998). Building on the combined insights of these studies, it is plausible to infer that the presence of familial risk factors alone may produce a certain likelihood that a behavioral problem will develop, however ineffective intervention in the school context may exacerbate this predisposition to clinical levels. In other words, the combined presence of poor parenting and ineffectual school intervention may pose an additive risk to the development and maintenance of behavior disorders.

Relationship with self-efficacy. As Heider (1958) asserted, the perception that one does not have control over events is central to the formulation of learned helplessness. Rejection of the school as a critical causal factor effectively eliminates the one context over which teachers have the most direct control, potentially sponsoring a particularly narrow range of intervention options and significantly impeding the cultivation of strong efficacy beliefs. Consequently, it is reasonable to suggest that teachers would benefit from recognizing the importance of the school context in the evolution of behavior disorders, and the potential for effective teaching to protect against the further development of an underlying predisposition to behavioral difficulties. Revision of teacher education programs to include the study of school factors related to effective intervention may be essential for the evolution of strong efficacy beliefs in teachers.

When considering the pervasive nature of these attributions across countries and cultures, it is possible to conceive that family-based attributions, combined with rejection of the school as a causal factor, may also serve as a self-protective bias for teachers (Tournaki & Podell, 2005). According to Weiner (1986), attributions can be important determinants of an individual's reactions to feedback. When attributed to factors under one's own control, negative feedback can be more detrimental to one's self perception as it may be seen as a result of one's own shortcomings (Bandura, 1997). A self-serving bias explanation may have particular salience in this study, considered with the lower self-efficacy reported with regards to students exhibiting behavior disorders, as well as the general feeling of frustration and helplessness suggested in teacher comments. Furthermore, the majority of teacher respondents in this study (61%) did express the belief that the most effective intervention for these students would occur outside of the school environment, and clearly stated that they had not been provided with adequate teacher preparation, or in-class support, for dealing with these behaviors in the classroom. For these teachers, this attributional pattern (family/child/biological attributions and rejection of school-based attributions) may serve as a way of reconciling their feelings of low self-efficacy regarding these students, and their desire to meet the needs of all students.

In summary, although attribution theory asserts that the causes themselves are not as important as the dimensions attached to the causes (Weiner, 1985), this study contributes to the growing body of literature which has identified a pattern of causal attributions that may be critical in the establishment of teachers' efficacy beliefs

with students who exhibit behavior disorders. Rejection of the school as a critical causal factor may effectively compromise the ability of teachers to recognize and scrutinize their role in effective intervention, and may contribute to feelings of helplessness and low self-efficacy. Rather than limiting concerns to the associations that exist amongst dimensions and self-efficacy, future research to examine the processes through which this attributional pattern (endorsement of family/pupil and rejection of school) influences self-efficacy may prove valuable. Results from such investigations may assist in more clearly delineating the influence of attributions on self-efficacy and in revising teacher education curriculum to effectively prepare teachers to work with these students.

Attributions, Expectations, and Self-Efficacy: The Mediational Model

According to the five-step regression analyses conducted to explore the data, teachers' stability attributions have a significant effect on their self-efficacy beliefs with students who exhibit behavior disorders through expectations about the amenability of behaviors to classroom-based intervention. Specifically, 50% of the effect of attributions on self-efficacy was through expectations. This suggests that when teachers believe that the cause of a behavior disorder is stable, their beliefs about their own ability to successfully manage and teach students with behavior disorders is compromised because their expectations for classroom-based intervention are reduced. In both the hypothesized model and the alternate model, expectations and self-efficacy were strongly associated, and were instrumental in mediating the effects of stability attributions on each other. The adjusted R^2 for both models was .50, suggesting that the relationship between stability attributions,

expectations and self-efficacy contributes significantly to an understanding about the formulation of teachers' beliefs about their own self-efficacy with students exhibiting behavior disorders.

Support for attribution theory. In accordance with attribution theory, these findings support Weiner's (1985, 2010) assertion that the stability of a cause (stable attributions) prompts differentiation in teacher expectations of change (expectations). In turn, these expectations affect motivation and beliefs about action (self-efficacy). Therefore, although research with respect to learning disabilities has found within-learner variables (locus of causality attributions) to be associated with lower teacher expectations (Georgiou et al., 2002; Medway, 1979; Tollefson & Chen, 1988), this research strongly supports Weiner's theory (1985, 2010) that causal stability, not locus, is the basis of expectancy shifts for teachers in their work with students who exhibit behavior disorders. In turn, these expectations lead to differentiation in teacher beliefs about their self-efficacy with these students. According to Weiner (2010), "simply put, if the cause will prevail in the future, then the prior effect will be anticipated to occur regardless of causal locus, whereas if the cause could change, then so might the outcome." (p. 33).

In recognizing that self-efficacy is a motivational construct (Bandura, 1977), this model may provide some insight into the motivation driving teacher practice in the area of behavior disorders. Interpreted in isolation, this mediational model suggests that when teachers perceive the cause of a student's behavior disorder to be stable or unchangeable, this would lead to the belief that it cannot be volitionally altered. Thus, an expectation of future failure regarding classroom-based

intervention may be elicited. This expectation will, in turn, be reflected in reduced self-efficacy regarding these students. Therefore, using this model and attribution theory (Weiner, 1985, 2010) as a framework for teacher cognitions, it is possible that teacher thinking may proceed as illustrated in the following fictional scenario.

Assume a teacher is notified that a student exhibiting a behavior disorder is to be enrolled in her classroom. The teacher would first be motivated to determine the cause of the behavior disorder in order to inform or guide future action. This cause would then be interpreted in dimensional space as being either stable or unstable. Presuming the teacher identified the cause as being stable, the teacher may overtly or covertly decide "if the cause of this behavior is unchangeable, then I don't expect to be able to change this behavior through my work in the classroom". This cognition may then lead to the teacher to assume "since I don't expect to be able to change this behavior through my work in the classroom, then it follows that I don't believe that I possess the skills necessary to intervene with this student".

As an extension, it is interesting to note that Weiner (1985, 2010) asserted that causal dimensions affect not only expectations, but have affective consequences as well. According to Weiner, stability attributions affect expectations and also foster feelings of hopelessness or hopefulness. Teacher free responses in this study clearly reflect feelings of hopelessness, supporting this aspect of Weiner's theory. Although not a part of this analysis, these feelings may be interesting to include in future attributional models.

Practical relevance. The relevance of these findings are three-fold. First, these results clearly suggest that self-efficacy for students who exhibit behavior

disorders is not a product of knowledge of interventions and perceived ability alone, but rather is shaped by the nature of beliefs about the stability of the cause of the behavior and the expectations for classroom-based intervention these appear to afford. As attribution theory is purported to be a phenomenological system, and "dimensional placement depends on 'how it seems to me'" (p.32, Weiner, 2010), it follows that that improving teachers' understanding about the instability of the causes of childhood behavior disorders has the potential to lead to corresponding improvements in expectations for classroom-based interventions, and enhanced teacher self-efficacy with these students.

Second, the data indicated strong relationships between expectations and self-efficacy in both the hypothesized model and the alternate model, supporting my hypothesis predicting a direct link between expectations for change and efficacy. Indeed, the zero-order correlation between these two variables was .69, $p < .001$. Specifically, expectations for amenability of behavior to classroom-based interventions were positively and significantly associated with self-efficacy for students who exhibit behavior disorders. In other words, when teachers believe that behaviors are less amenable to change through classroom-based interventions, self-efficacy beliefs are reduced, and vice versa. By extension, this highlights the importance of enhancing teachers' understanding of the role of the school as an important causal factor and influential context for intervention. Specifically, when teachers recognize the importance of the school in intervention for behavior disorders, the potential for improved classroom-based expectations is enhanced.

Third, the results of this study, considered with the limited body of research in this area, suggests that the three model variables may be intimately connected, and each variable should not be considered in isolation when inferring practical application. Andreou and Rapti (2010) found that teachers who espouse family-based attributions, and reject school-based attributions for behavior disorders, may tend to have limited expectations for classroom intervention even though they feel capable to implement them (high self-efficacy). Overall previous literature suggests that a focus on improving teacher efficacy, without considering the beliefs that contribute to its development, may be missing critical elements that drive teachers' motivational stance in working with students (Greene, 1995; Short & Short, 1989). As such, accumulating evidence inclusive of this study, suggests that attempts to improve teacher self-efficacy alone, for example through direct strategy-focused instruction, may ultimately result in no substantial practical effects. Instead, teacher preparation directed at enhancing knowledge about the causes of behavior disorders, and the elements that drive the development and maintenance of the disorders over time, appears to be essential in nurturing optimistic expectations for classroom intervention and enduring efficacy judgments.

The preceding relationships must be interpreted within the context of the following conditions. Specifically, four potential moderators were tested, however only one of these variables demonstrated a moderating effect: number of courses specific to behavior disorders. Prior to discussion of this significant interaction, exploration of the non-significant effect of three of the variables including type of

education (preferred intervention based upon education), teacher experience, and teaching level, will provide some insight into practical application of the model and an area for future research.

Interaction Effects

Type of education. Although a non-significant moderator, several interesting findings emerged for type of education (preferred intervention based on education) in earlier steps of the model and the open-ended responses. For example, in Step #1, a preference for individualized interventions (based on both education and experience) predicted higher self-efficacy scores, and a preference for individualized interventions based upon teacher education was a significant predictor of expectations in the alternative model. Overall, teachers who espoused a preference for individualized interventions as opposed to universal (general) classroom strategies reported higher expectations and self-efficacy. This quantitative result is not supported in the literature, which has indicated that individualized interventions , such as the functional assessment of behavior, are not accepted or practiced by teachers (Gresham, 2004), possibly due to the time and special expertise required to implement them and the corresponding challenges regarding applicability to the complex classroom environment (DuPaul & Ervin, 1996). Teachers' free responses in this study also challenged the quantitative data by suggesting that individualized interventions were perceived as overwhelming and generally unrealistic to implement in a classroom setting due to time demands, number and diversity of students, and the complexity of the teachers' role.

Although it is not clear why this contradiction emerged, it is plausible that it may be due to teachers' interpretation of the labels "individual behavior plan" vs "the same strategies used for other students". Specifically, free responses suggest that teachers do not feel capable of implementing behavior programs for specific individuals within a classroom, but feel strongly that they would benefit from teacher education that would include instruction on intervention strategies specific to behavior disorders. Teacher comments suggested a general belief that teachers had not received adequate formal instruction in specific behavior strategies (such as those taught in special education), and this knowledge is essential for all teachers. Teachers also appeared to recognize that the benefits of such instruction would extend to all of the students in the school setting, and thus would be effective as a general intervention. These free responses support literature asserting that universal (general) interventions are considered to be effective for all students and are believed to support the inclusive model of education by reducing the number of individualized programs teachers are expected to implement (Ducharme & Shecter, 2011; Hunter, 2003; Suldo & Shaffer, 2008) Thus, it seems plausible to suggest that teacher respondents may have interpreted "individual behavior plan" as being a plan "specific to behavior disorders". To test the validity of this contention, future research could investigate a revised version of this question with a population of teachers who have engaged in a greater number of formal educational experiences addressing behavior disorders.

Teaching experience. Although the sample was small, teachers responding to the survey were representative of a wide range of years of teaching experience.

Previous research with general education teachers has found somewhat lower self-efficacy beliefs amongst novice teachers as compared to experienced teachers (Tournaki & Podell, 2005; Tschannen-Moran & Woolfolk Hoy, 2007), and inexperienced teachers have been demonstrated to feel more helpless with students who exhibit behavior problems (Borg, 1998). Therefore, I had hypothesized that internal attributions of locus of causality would lead to reduced expectations for behavioral amenability, which would, in turn, reduce feelings of self-efficacy, however this effect would be stronger for teachers with less experience. This hypothesis was not supported by the data. The zero-order correlations were small and non-significant. In the regressions, number of years of teaching experience (which was dichotomized into inexperienced vs. experienced) had no significant relationship with the dependent variables, and did not function as a significant moderator. Although literature specific to teacher self-efficacy with students who exhibit behavior disorders is extremely limited, one recent study examining teacher self-efficacy with this population also found no difference in self-efficacy beliefs between teacher experience groups (Andreou & Rapti, 2010). As such, corroborating results from these two studies appears to identify the critical need for in-service education designed to address teacher self-efficacy directly related to student behavior disorders. Support for this suggestion was also indicated in teacher free responses under the theme "teacher education needs to be ongoing".

Teaching level. Although previous literature has demonstrated some influence of teaching level on attributions (Kulinna, 2008; Soodak & Podell, 1994)

and strategy use (Kulinna, 2008), the impact of teaching level on model variables in this study was non-significant. This finding appears to suggest that implications from this study would be applicable to teachers in all school contexts (elementary, junior high, and high school).

Number of courses specific to behavior disorders. The number of courses taken specific to behavior disorders (dichotomized into no course and one or more courses) significantly moderated the relationship between expectations and self-efficacy (in both models). Although the interaction did not result in a significant change to the R^2 value, the marginal effect is worth discussing because the moderator functioned contrary to my expectations. Specifically, I had speculated that additional education specific to behavior disorders should translate to improved self-efficacy. Paradoxically, the results of this study highlighted the opposite effect in finding that taking no courses was more advantageous for teachers' self-efficacy than taking one or more courses.

Although it is not possible to definitively ascertain the reasons for this finding, teachers' free responses suggest that this effect may be due to the quality of the education they received. Overall, teacher comments suggested that coursework was ineffectual, impractical, and unrealistic when considered within the practical demands of the job. As one teacher stated, "The severe behavior management class that I took in university was more harmful than helpful and was best disregarded." This suggestion is supported by literature in which teachers have identified education in the area of behavior disorders as a top priority (Wagner et al., 2006), and report that that they feel inadequately prepared to deal with this population of

students (Buchanen et al., 2009; Dworet & Maich, 2007; Justice & Espinoza, 2007; Sawka et al., 2002). Furthermore, research has demonstrated that mastery experiences are a major contributor to teacher perceptions of self-efficacy (Tschannen-Moran & Woolfolk Hoy, 2007). Therefore, it is possible to speculate that when education received does not translate into a mastery experience via successful intervention, a potent source of efficacy beliefs is diminished. Although entirely speculative, it is possible to suggest that with improved educational opportunities, the interaction between number of BD courses and model variables might persist, albeit in the opposite direction.

Teachers' Free Responses

In addition to supporting and adding context to the quantitative data, teacher free responses introduced a number of additional variables that may be of consequence in enhancing our understanding about teachers' beliefs with this population, and suggesting variables for future self-efficacy research. Teacher responses generally converged around the following areas that have previously emerged in literature: high levels of teacher stress related to teaching students with behavior disorders; behavior disordered students infringing on the learning and safety rights of students and teachers in the classroom/school environment; and concerns about an inclusive model of education and support for a congregated classroom model (Bon et al., 2006; Kauffman, Bantz, & McCullough, 2002; Male, 2003; Nelson et al., 2001; Soodak & Podell, 1998). As this response set does not appear to be prompted by survey questions, it appears plausible that teachers regarded these factors as crucial to a complete understanding of their efficacy

beliefs and experiences regarding this population. A short discussion around teacher responses within these themes will lead into implications, and suggestions for future research as delineated in a re-specified model.

Teacher responses highlighted a pervasive belief that students exhibiting behavior disorders engender a great deal of teacher stress through causing significant disruptions to classroom learning, creating unrealistic demands on the teacher, and compromising teacher and student safety. Overall, the opinion that students with behavior disorders infringe on the basic educational rights of other students, and the rights of teachers themselves, was a common assertion. Teacher comments suggested that teachers feel overburdened by the presence of students with behavioral disorders, and that the effort required to address the students' needs was not justified when considering the effect on other students in the classroom/school environment. The tone of these responses reflected a high level of stress, frustration, and sometimes anger. These findings support previous literature indicating high levels of stress and negative emotion reported by teachers and other staff working with individuals exhibiting behavior disorders (Bon et al., 2006; Bromley & Emerson, 1995; Male, 2003; Mitchell & Hastings, 2001; Nelson et al., 2001). Considering Weiner's assertion that attributions provoke emotions that, in turn, guide action (Weiner, 1985) and Bandura's (1986, 1997) proposition that physiological arousal is one of the four sources of teachers' efficacy beliefs, these reported emotions suggest an area for future research regarding the extent to which teacher attributions influence emotions and subsequently affect teachers' beliefs about their competence with students who exhibit behavior disorders.

Teacher respondents in this study reside in an educational milieu that is presently moving towards a more inclusive model of addressing the needs of students in the province (Alberta Education, 2011). Despite this inclusive impetus, teachers clearly expressed the opinion that the inclusive model was not preferred or effective for the teacher, the behavior disordered student, or the other students in the classroom. Instead, teachers suggested that the needs of students who exhibit behavior disorders would be best met in congregated classrooms where these students could received specialized instruction with a higher teacher/student ratio. This opinion was asserted by teachers who had teaching experience in both inclusive and segregated/congregated settings. This preference for a congregated classroom model as opposed to an inclusive model suggests that future research may wish to identify and explore factors inherent to each of these models with respect to their implications for self-efficacy. As the benefits of a congregated model have also been highlighted in literature (Bon et al., 2006; Farrell & Tsakalidou, 1999; Kauffman, Bantz, & McDullough, 2002; Soodak & Podell, 1998), and even supported by students who have been educated in this model (Jahnukainen, 2001), it behooves researchers to explore factors associated with this belief. Specifically, what are the factors contributing to teacher preference for the congregated model, what are the factors contributing to teacher resistance to the inclusive model, and how do these factors influence teacher self-efficacy with this population of students?

Although these expressed concerns do not necessarily directly map onto the hypothesized model, they clearly contribute to a richer understanding of teacher

beliefs about this population and suggest additional factors that may underlie low levels of self-efficacy. As Klassen et al. (2011) and Bon et al. (2006) asserted, the value of research would be enhanced if teachers and researchers were able to work together to identify and develop research questions that would reflect issues relevant in daily classroom practice. As such, these free responses may hold particular value in designing future research and identifying variables critical for school districts and teacher educators to consider in their movement towards a more inclusive model of education. Given the foresight to address these issues and anticipate obstacles to teacher self-efficacy with this population, school districts and teacher educators may be provided with a working sense with which to approach teacher education and classroom support in this domain.

Building upon the combined insights of the literature base, and the quantitative data and teacher free responses in this study, I propose the following re-specified model incorporating variables that emerged as significant, and variables that emerged as potentially relevant, to nurture a more comprehensive understanding of the formulation of teacher self-efficacy with students who exhibit behavior disorders.

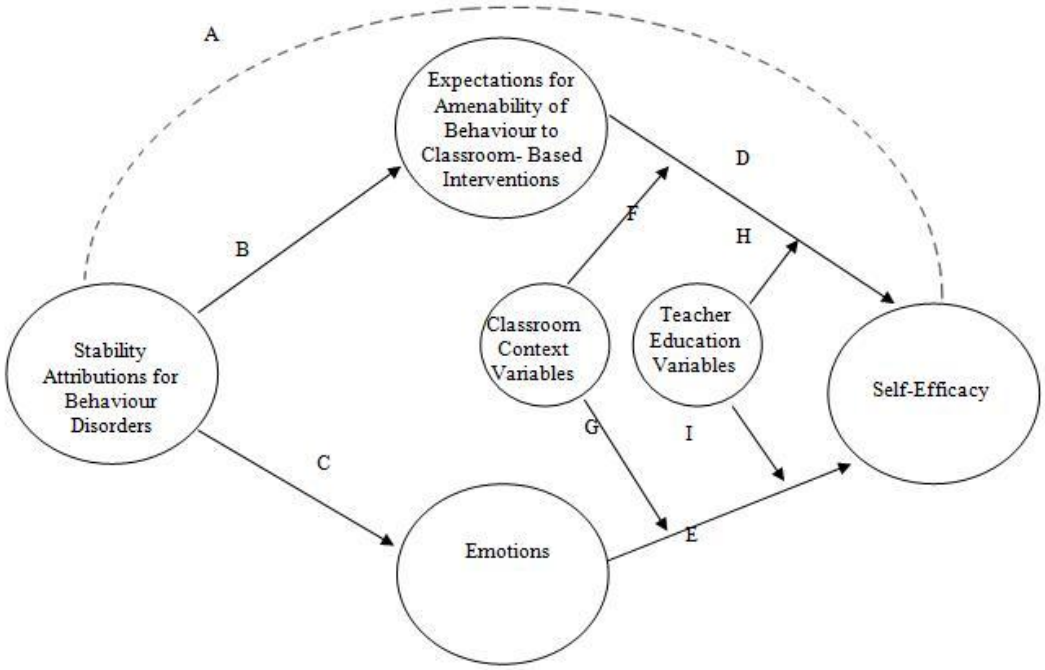

Figure 4. The effect of stability attributions for behavior disorders on teachers' self-efficacy, as mediated by teacher expectations and emotions and moderated by classroom context variables and teacher education variables.

The respecified model (Figure 4) suggests that stability attributions for student behavior disorders will predict teacher self-efficacy for behavior disorders through their impact on expectations for the amenability of the behavior to classroom-based intervention (Paths B,D), and their impact on emotions evoked by the attributions (Paths C,E). Thus, expectancies for the effectiveness of classroom-based intervention and teacher emotion would mediate the effect of

stability attributions on self-efficacy with students who exhibit behavior disorders. It is expected that this model may be moderated by classroom context variables, such as those inherent to congregated versus inclusive models (Paths F,G), as well as teacher education variables such as practical versus theory-based instruction, in-service versus pre-service education, reactive versus proactive interventions, or a re-worded universal/general interventions versus tertiary/individualized interventions (Paths H,I).

Implications

Contributions to the Literature

The results of this study extend the literature base in three ways. First, this study appears to be the first to test the relationship between attributional dimensions, expectations, and self-efficacy in the context of teachers and their work with students exhibiting behavior disorders. Specifically, extensive empirical evidence has demonstrated that parent and care staff attributions for child behavior problems relate to their propensity to engage in intervention (Dagnan et al., 1998; Hoza et al., 2000; Johnston & Freeman, 2002; Miller & Prinz, 2003; Reimers et al., 1995; Weigel et al., 2006), however these links have not been studied with respect to teachers in their work with behavior disorders. The models tested in this study extend these findings into the educational domain, and thus support and extend attribution theory.

Second, previous research has explored teachers' causal attributions for behavior disorders (Andreou & Rapti, 2010; Arcia et al., 2000; Bibou-Nakou et al., 2000; Christenson et al., 1983; Erbas et al., 2009; Ho, 2004; Kulinna, 2008;

Mavropoulou & Padeliadu, 2002; Soodak & Podell, 1994), however this study appears to be the first to explore the dimensions associated with identified causes. The results of this study suggest stability attributions are influential in the formulation of teachers' expectations regarding the success of classroom-based interventions and, subsequently, teacher's feelings of self-efficacy with students who exhibit behavior disorders, again, supporting and extending attribution theory.

Third, literature has suggested that teachers do not feel adequately prepared to work with students who exhibit behavior disorders (Buchanen et al., 2009; Dworet & Maich, 2007; Justice & Espinoza, 2007; Sawka et al., 2002), and tend to hold lower academic expectations for these students (Whitley et al., 2009). Furthermore, students who have exhibited behavior disorders have reported that the educational program provided to them by teachers was not sufficiently challenging or demanding (Jahnukainen, 2001). Despite these collective findings, teachers' expectations about classroom-based interventions and feelings of self-efficacy with this specific population have not been explicitly examined. This study, therefore, contributes to the domain-specific self-efficacy literature base by suggesting that, overall, teachers feel less efficacious in all dimensions of self-efficacy (classroom management, instructional strategies and student engagement) with behavior disordered students, as compared to general education students.

Practical Implications

From an applied perspective, the findings from this study highlight the critical need for the establishment of a comprehensive, practical curriculum designed to increase the expectations and self-efficacy of all teachers in their work with

students who exhibit behavior disorders. By considering the results from the regression analyses, as well as the themes from open-ended teacher comments, I suggest that a comprehensive educational program should include (a) increased coursework specific to behavior disorders (b) curriculum designed to address teachers' causal attributions for behavior disorders and the stability of those causes and (c) practical, relevant strategies designed to improve expectations and self-efficacy through interventions that translate effectively into the 'real-world' classroom environment.

Increased coursework specific to behavior disorders. This particular sample of teachers reported very limited pre-service educational opportunities related to students who exhibit behavior disorders. This finding emerges from their own words, and from only 50% reporting any undergraduate courses in behavior disorders. Insomuch as this sample reflects teachers' experiences as a whole, and research suggests that it does (Bon et al., 2006; Buchanan et al., 2009; Justice & Espinoza, 2007; Wagner et al., 2006), it appears critical that teacher education institutions increase mandatory course offerings related to this topic for teachers in all streams. The importance of improved pre-service education is further highlighted when considering Bandura's contention that efficacy beliefs are most pliable early in learning, and once established, are resistant to change (Bandura, 1997). Interpreting study findings with this in mind, suggests that pre-service teacher educators have an important role in providing educational experiences that may nurture strong self-efficacy beliefs in the behavioral domain early in a teacher's career.

Study findings are strengthened by the evidence that teacher experience and teacher level groups did not differ concerning their beliefs. This has two implications. First, it reduces the likelihood that a general response set could account for the results. Therefore factors such as differences in teacher education over time or across teacher level specialties, and variations in experience, do not appear to play a significant role. Second, it follows that both pre-service and in-service teacher educators in all specialty areas need to pay close attention to teacher educational support in this area. Clearly, teacher pre-service education programs cannot be expected to impart every skill necessary in the education of students who exhibit behavior disorders. Thus in-service education could serve to support, enhance, and extend efficacy beliefs by assisting in translating pedagogy into practice, and providing ongoing educational support for teachers in their work with behavior disorders.

As the momentum of the inclusion movement continues to grow, general education teachers are working in classrooms in which students demonstrate increasingly diverse academic and behavioral characteristics. Teacher free responses in this study reflect this understanding, and respondents clearly asserted the need for all teachers to have ongoing access to the type of education that was historically deemed "special education".

Curriculum designed to address teacher attributions for behavior disorders. Results emerging from this research suggest that the content of teacher education programs needs to include both (a) investigation of the range of causative factors, including school factors, underlying the development and maintenance of

behavior disorders, and (b) explore the stability/instability of each of these factors over an individual's developmental course. As illustrated in the present research and previous literature (Andreou & Rapti, 2010; Erbas et al., 2010; Ho, 2004; Mavropoulou & Padeliadu, 2002), teachers do not appear to recognize the school environment and the teacher/student relationship as influential causal factors related to behavior disorders. Therefore, pre-service and in-service curricular content addressing attributions for behavior disorders should include exploration of the impact of the variety of ecological niches in which the developing child resides and grows, while highlighting the school as a critical developmental context for behavior disorders. It may be relevant to note that literature also suggests that an enhanced understanding about the contribution of school factors to the development and maintenance of childhood behavior disorders has the potential for cumulative effects on teacher self-efficacy. Specifically, research has found that improved self-efficacy, in turn, makes teachers more likely to attribute student behaviors to school-based factors, and more apt to access the assistance other professionals in their work with these students(Andreou & Rapti, 2010). Thus, the potential for multiple points of influence on the evolvement of efficacy beliefs is highlighted, and, as such, the cumulative impact on teacher self-efficacy may be substantial. With this in mind, this study supports the assertions of other researchers who call for the integration of social (e.g. school, family, peer, community), biological, and cognitive attributions into the development of effective teacher education programs (Andreou & Rapti, 2010; Guerra et al., 2005; Mavropoulou & Padeliadu, 2002). Given the constitutive and shaping effects of attributions on teacher expectations

and efficacy, the ability to attribute significance to a range of contexts might serve to generate intervention options that might otherwise be neglected.

In addition to an exploration of the variety of causal attributions for behavior disorders, this study suggests that curriculum should attempt to nurture teachers' understanding of the unstable, evolving nature of these causative factors. According to the results of this research, when teachers believe that the cause of a behavior disorder is unstable, their expectations for classroom intervention improve, and their self-efficacy is enhanced. When teacher preparation includes exploration of the developmental importance of each of the ecologies in which the student resides, as well as the instability of these causative factors, there may be increased potential for nurturing optimistic expectations and efficacy beliefs.

By increasing teachers' understanding of the influence of multiple causal factors on the development of behavior disorders, and the instability of these causes when exposed to environmental influence, teacher educators may help to nurture an understanding of the schools' influence on both the behavior disordered student himself, as well as transactions between other causal factors (eg. through family involvement, medical support, psychological assistance). To this end, teacher educators may wish to consider a cognitive ecological framework as suggested by Guerra et al. (2005) or a biopsychosocial-type framework as suggested by Mavropoulou & Padeliadu (2002). These frameworks may be utilized as both explanatory and intervention models, effectively addressing causal factors, and the instability of these factors over the child's development.

Although the main effect of coursework on the study variables was in a direction opposite to which one would expect, an argument was made for the possibility that 'good' coursework has the potential to positively impact teachers' expectations and self-efficacy with students who exhibit behavior disorders. Considering that previous research has suggested that attributions are influenced by teachers' areas of specialization and university coursework (Erbas et al., 2010), the viability of this argument is strengthened, and supports the idea that the inclusion of curricular content related to attributions may be an integral component in designing effective, empowering education for all teachers.

Practical, relevant strategies designed to nurture mastery experiences in the classroom. Teacher free responses in this study emphasized the critical need for education that imparts knowledge of practical behavioral strategies and translates effectively into the 'real-world' classroom. Self-efficacy theory posits that mastery experiences are a critical source of efficacy beliefs (Bandura, 1997), and indeed, Tschannen-Moran and Woolfolk Hoy (2007) found that the strongest contributor to efficacy beliefs for both beginning and career teachers was mastery experiences. It would follow that a series of successful teaching experiences with students who exhibit behavior disorder would build self-efficacy, whereas repeated unsuccessful experiences would reduce efficacy beliefs. By extension, pre-service education imparting practical domain-specific strategy knowledge, may translate to early successful teaching experiences, and thus nurture the potential for enduring efficacy beliefs. Through exploration of teacher free responses in this study, one

suggestion specific to choosing a practical, responsive, strategy-based curriculum follows.

Although teacher respondents in this study suggested a critical need for increased knowledge of strategies specific to behavior disorders, serious challenges regarding the viability and applicability of strategies to natural environments emerged in teacher free responses. Teacher comments illustrated concerns about the complexity of individual needs in today's classroom, and the time and special expertise required to implement individual strategies in an already demanding and complex classroom environment. Literature supports these concerns by suggesting that individualized approaches are neither time nor cost efficient, and effectively underutilize teacher time (Dupaul & Ervin, 1996; Hunter, 2003). Considering the high levels of stress and negative emotions associated with dealing with behavior disordered students reported by teachers in this study, and supported in literature (Bon et al., 2006; Bromley & Emerson, 1995; Hastings & Bahm, 2003; Mitchell & Hastings, 2001; Nelson et al., 2001) it will be critical to ensure that strategies suggested by teacher educators do not contribute to further discouragement and deterioration of teachers' motivation and efficacy. With this in mind, as opposed to the overwhelming 'one child at a time' or 'case by case' approach, researchers have suggested that teachers need to focus on learning a limited number of strategies, see them work, and experience using them repeatedly (Sindelar & Brownell, 2001). In response to these calls, and to the results of this study, it may be beneficial for teacher educators to consider universal intervention approaches such as the Keystone Approach (Ducharme & Shecter, 2011). They Keystone Approach to

intervention for students who exhibit behavior disorders is designed to "provide teachers with a proactive strategy for improving foundational student skills that would likely lead to broader positive outcomes and student well-being" (p. 269). This type of approach would be consistent with the trend towards prevention science in the schools (Burns, 2011) and the impetus towards development of universal classroom strategies that would address the positive development of all students (Emmer & Stough, 2001; Hunter, 2003; Suldo & Shaffer, 2008). As schools move toward an inclusive model, and classrooms become more diverse in nature, the need for strategies that can be utilized effectively to benefit groups of students is both practical and responsive to teachers' expressed concerns in current and past research. As the effects of individualized versus universal interventions on teachers' self-efficacy was inconclusive in this study, future research designed around these variables would help to further guide teacher educators in their attempts to meet the needs of teachers in a diverse, time and resource limited classroom environment.

Limitations

Several limitations should be acknowledged. First, one of the unique aspects of this investigation is the examination of attributional dimensions associated with specific causal attributions. Although the attribution questionnaire indicated acceptable reliability based upon previous research (McCauley et al., 1992), the coefficient alpha for the stability scale was lower than desirable (Nunnally & Bernstein, 1994). This was especially worrisome because stability emerged as the most important of the attributional dimensions. This may suggest that the stability

measure was not measuring a unidimensional construct, or may have reflected high random error. On the other hand, the obtained alpha may, at least partially, be attributed to the small number of items in the subscale (Johnson & Christensen , 2004) . Although the findings are highly consistent with attribution theory (Weiner, 1985, 2010), this alpha suggests that results should be interpreted with some caution. Future research with an alternate scale would help to verify the results of this study.

Second, although the number of study participants was adequate for the analysis (Tabachnick & Fidell, 2007), it was not possible to obtain sufficient data to have complete confidence in the relationships established between some of the variables (e.g. gender effects, teaching level, amount of education). Therefore, any conclusions are tentative, and future research could be conducted with a larger sample.

Third, the generalizability of these results should be approached cautiously. I remind readers that this study included teachers in and around a large suburban area; therefore the generalizability of the results should be verified by looking at a broader geographical sample. Furthermore, due to the methods of distribution (principal controlled and listserv email), it was impossible to control for potentially confounding variables which may have had an impact on teacher attitudes. Specifically, because the survey was dependent on principals choosing to circulate and teachers choosing to participate, the sample may not capture the experiences of all teachers in various socio-economic contexts, and school socio-political climates. For example, teachers may have differed in several potentially influential ways, or

may have been a homogeneous response set. Variables such as teacher biases, school climate, variations in school population, socio-political factors (school or school board), and the subjective school norm (Stanovich and Jordan, 1998) may have impacted responses. Anecdotally, it may be important to note that some principals did decline participation due to the nature of the topic. This may have affected results by limiting the range of responses and opinions. Future studies could selectively choose schools that would control for some of the variables in order to enhance confidence that effects found are due to the variables in question, rather than any or a combination of other variables that were not controlled.

Fourth, the order of presentation of questionnaire items to the participants might have introduced bias inasmuch as answering questions about their self-efficacy may have influenced teachers' responses to the expectations items. Any future research may counterbalance the order of presentation. Notwithstanding these limitations, the findings support previous research, make new contributions to the literature base, and highlight important factors relevant to teacher education, expectations, and self-efficacy with students who exhibit behavior disorders.

Future Research

The results of this study suggest at least five areas for future research. First, the impact of number of courses and type of education (preferred intervention based upon education) was, in many ways, inconclusive due to the limited coursework reported by this sample. Future research with a sample of teachers from a wider geographical area, encompassing a variety of post-secondary teacher education institutions (and by extension different training related to behavior

disorders) would help to ascertain the effects of these variables on teacher expectations and efficacy, and potentially provide further direction in terms of improving teacher education in this domain.

Second, school-based attributions were rejected in this sample and in previous research conducted in various countries and cultures (Andreou & Rapti, 2010; Arcia et al., 2000; Bibou et al., 2000; Christenson et al., 1983; Erbas et al., 2009; Ho, 2004; Kulinna, 2008; Mavropoulou & Padeliadu, 2002; Soodak & Podell, 1994). As the school environment can be conceptualized as the one context in which teachers have some influence, a critical context related to efficacy beliefs was not explored. Teacher free responses from this study considered with previous literature suggest that these attributions may be strongly associated with teacher efficacy as well as expectations for classroom-based interventions. Further research may assist in clarifying this relationship.

Third, although stability attributions and expectations significantly predicted teacher self-efficacy, 50% of the variance in self-efficacy remained unaccounted for. Although teachers identified a crucial need for effective education, their free responses suggested that several workplace factors may also be influential in shaping self-efficacy with students who exhibit behavior disorders. These include concerns about the rights of the general school population; concerns about the adoption of full inclusion policies; and concerns regarding high levels of teacher stress related to students who exhibit behavior disorders. At a minimum, future research should include these types of variables in models that attempt to explain teachers' self-efficacy with students who exhibit behavior disorders. One possible

pursuit would be the re-specified model I have articulated. Even more ideally, as Klassen et al. (2011) and Bon et al., (2006) suggest, future research would be enhanced if teachers and researchers could collaboratively identify critical issues and corresponding research questions. This may be the most important direction for future research and through considering teacher free responses from this study, this ideal may be closer to realization.

Fourth, teachers clearly expressed some factors that school districts would be wise to consider when attempting to support an effective inclusive model of education. With the current emphasis on inclusion (Alberta Education, 2011), teachers may feel it is normatively obligated to accept these students in the classroom, while holding beliefs that impede successful intervention. Finally, having demonstrated the deleterious effects of stable attributions on expectations and self-efficacy, future research might examine the affects of attributional retraining (Haynes, Perry, Stupnisky, & Daniels, 2009) on teachers' expectations for classroom based intervention and self-efficacy with students who exhibit behavior disorders.

Conclusion

In 1995, Walmsley and Allington reported that many classroom teachers expressed the belief that they were incapable of helping all children to succeed. Research inclusive of this study suggests that, almost two decades later, teachers continue to hold these beliefs with respect to students exhibiting behavior disorders. As student behavior disorders have been identified as one of the most pressing concerns facing educators today, and a major source of stress for teachers (Bibou-Nakou et al., 1999; Bon et al., 2006; Brouwers & Tomic, 2000; Hastings & Bham, 2003; Nelson et al., 2006; Rose & Gallup, 2004) low self-efficacy with this population holds particular relevance. Although researchers understand the effects of these disorders on teachers' job stress and satisfaction, they know much less about how teachers make sense of student behavior disorders and how these thoughts may subsequently contribute to their stance towards intervention. Although teachers' beliefs may be implicit and unarticulated, they have the potential to significantly influence perceptions and decision-making in the classroom.

The results of this study suggest that teachers' expectations and self-efficacy are vulnerable to the influence of their attributional beliefs regarding the causes of student behavior disorders. Although schools have been identified as key venues for intervention in the prevention or mitigation of childrens' behavior disorders (Farrell et al., 2001; Guerra et al., 2006), cumulative research findings, supported by the results of this study, suggest that teachers may be mired in a stance of helplessness with regard to school-based intervention for this population.

Specifically, teachers' thoughts about the stability of the causes of behavior disorders appear to compromise their efficacy beliefs through reduced expectations. Furthermore, teachers exhibited a tendency to reject the school as a critical context in the evolution of behavioral difficulties. Clearly, the associated cognitions may be antithetical to the nurturance of optimistic expectations and beliefs about self-efficacy with this population.

Considering the evidence that self-efficacy is powerfully related to teaching behavior and meaningful educational outcomes (Allinder, 1994; Coladarci, 1992; Tschannen-Moran & Woolfolk Hoy, 2001), understanding ways in which these self-efficacy beliefs evolve provides important information for teacher education and for education support structures for in-service teachers**.** To counter the negative impact of stable causes on expectations and efficacy, the results of this study offer insight into ways to enhance pre-service and in-service educational opportunities. Furthermore, valuable insights provided by teachers in their free responses invite future exploration into emotional and workplace variables that may be potent antecedents to expectations and efficacy beliefs related to working with this population of students. Given the impact of teacher self-efficacy and teacher expectations on both teachers and students (Anderson et al., 1988; Ashton & Webb, 1986; Allinder, 1994; Coladarci, 1992; Tschannen-Moran et al., 2008), it is possible that even small improvements in self-efficacy may have large practical effects for teachers and the students in their care, although this is a question for future research. In an educational milieu that is moving towards an inclusive model (Alberta Education, 2011), consideration of these research findings will assist in

creating effective educational and workplace infrastructures to support and empower teachers in their increasingly complex role working with students who exhibit behavior disorders.

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List of Appendices

Appendix A: Letter of Introduction

Dear Teachers,

Thank you so much for taking the time to participate in this study. Your responses to the questions will be instrumental in helping us understand current teachers' experiences with students exhibiting behavior disorders.

The questionnaire should take approximately 10-15 minutes to complete. To protect your anonymity, you will not be required to identify yourself by name. The data will remain confidential, and all information will be presented in aggregate form.

Although I am hoping that you will be able to answer all of the questions, if there are any questions that you are not comfortable with, you may leave them unanswered.

There are no right or wrong answers; I am interested in your honest opinions.

Thank you again for your participation. Please click "next" if you consent to complete the questionnaire.

Jenifer Fontaine

Ph.D. Candidate

University of Alberta

Appendix B: Attribution Questionnaire

The next question asks for your opinion about the most important cause of behavior disorders in children. Although you may think of many contributing factors, please try to identify what you believe to be the primary cause.

What do you believe is the **primary** cause of behavior disorders in school-aged children?

- Biological Causes
- School Causes
- Family Causes
- Personality Causes
- Some other factor not mentioned (please specify below).

Other factor not mentioned: -

_____

Keeping in mind the cause you selected in question #6 or provided in question #7, answer questions 8-19.

For example, in the next question, if you believe the cause you identified "reflects an aspect of the child", tick the box on the far left. If you believe the cause you identified "reflects an aspect of the situation", tick the box on the far right. The buttons in the middle reflect points on a continuum between these two options.

I believe the cause I identified:

1.	reflects an aspect of the child	7 6 5 4 3 2 1	reflects an aspect of the situation
2.	is manageable by the child	7 6 5 4 3 2 1	is not manageable by the child
3.	is permanent	7 6 5 4 3 2 1	is temporary
4.	can be regulated by the child	7 6 5 4 3 2 1	cannot be regulated by the child
5.	can be controlled by others	7 6 5 4 3 2 1	cannot be controlled by others
6.	is inside of the child	7 6 5 4 3 2 1	is outside of the child
7.	is stable over time	7 6 5 4 3 2 1	is variable over time
8.	is under the power of other people	7 6 5 4 3 2 1	is not under the power of other people
9.	is something about the child	7 6 5 4 3 2 1	is something about others
10.	is something the child has power over	7 6 5 4 3 2 1	is something the child does not have power over
11.	is unchangeable	7 6 5 4 3 2 1	is not unchangeable
12.	can be regulated by other people	7 6 5 4 3 2 1	cannot be regulated by other people

Appendix C: Self Efficacy Questionnaire for students who exhibit behavior disorders

This part of the 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 the statements that follow by indicating the point on the scale that best reflects your opinion.

For students who exhibit behavior disorders:

	Nothing	Very Little		Some Influence		Quite A Bit		A Great Deal
How much can you do to control these students' disruptive behavior in the classroom?	1	2	3	4	5	6	7	8 9
How much can you do to motivate these students who show low interest in school work?	1	2	3	4	5	6	7	8 9
How much can you do to get these students to believe they can do well in schoolwork?	1	2	3	4	5	6	7	8 9
How much can you do to help these students value learning?	1	2	3	4	5	6	7	8 9
To what extent can you craft good questions for these students?	1	2	3	4	5	6	7	8 9
How much can you do to get these children to follow classroom rules?	1	2	3	4	5	6	7	8 9
How much can you do to calm these students when they are disruptive or noisy?	1	2	3	4	5	6	7	8 9

How well can you establish a classroom management system with these students?	1 2 3 4 5 6 7 8 9
How much can you use a variety of assessment strategies with these students?	1 2 3 4 5 6 7 8 9
To what extent can you provide an alternative explanation or example when these students are confused?	1 2 3 4 5 6 7 8 9
How much can you assist families in helping these children do well in school?	1 2 3 4 5 6 7 8 9
How well can you implement alternative strategies in your classroom?	1 2 3 4 5 6 7 8 9

Appendix D: Self Efficacy Questionnaire for students who do not exhibit behavior disorders

Please respond to these statements with reference to students who do not exhibit behavior disorders.

	Nothing	Very Little	Some Influence	Quite A Bit	A Great Deal
How much can you do to control these students' disruptive behavior in the classroom?	1	2	3 4 5	6 7	8 9
How much can you do to motivate these students who show low interest in school work?	1	2	3 4 5	6 7	8 9
How much can you do to get these students to believe they can do well in schoolwork?	1	2	3 4 5	6 7	8 9
How much can you do to help these students value learning?	1	2	3 4 5	6 7	8 9
To what extent can you craft good questions for these students?	1	2	3 4 5	6 7	8 9
How much can you do to get these children to follow classroom rules?	1	2	3 4 5	6 7	8 9
How much can you do to calm these students when they are disruptive or noisy?	1	2	3 4 5	6 7	8 9
How well can you establish a classroom management system with these students?	1	2	3 4 5	6 7	8 9
How much can you use a variety of assessment strategies with these students?	1	2	3 4 5	6 7	8 9
To what extent can you provide an alternative explanation or example when these students are confused?	1	2	3 4 5	6 7	8 9
How much can you assist families in helping these children do well in school?	1	2	3 4 5	6 7	8 9
How well can you implement alternative strategies in your classroom?	1	2	3 4 5	6 7	8 9

Appendix E: Expectations Questionnaire

Listed below are some behaviors that might be exhibited by children in the classroom.

To what extent to you think these behaviors can be changed through CLASSROOM-BASED INTERVENTIONS with the first button being “not changeable” and the fifth button being “very changeable.

	Not changeable				Very changeable
Argues with adults	1	2	3	4	5
Loses temper	1	2	3	4	5
Bullies, threatens or intimidates others	1	2	3	4	5
Has difficulty organizing work and work space	1	2	3	4	5
Blames others for mistakes	1	2	3	4	5
Calls out in class	1	2	3	4	5
Is angry and resentful	1	2	3	4	5
Actively defies or refuses to comply with requests	1	2	3	4	5
Uses weapons to cause physical harm to others	1	2	3	4	5
Fidgets and squirms in seat	1	2	3	4	5

Steals	1	2	3	4	5
Has difficulty working quietly	1	2	3	4	5
Lies	1	2	3	4	5
Does not complete assignments	1	2	3	4	5
Initiates physical fights	1	2	3	4	5
Deliberately destroys others property	1	2	3	4	5
Is physically cruel to people	1	2	3	4	5
Deliberately annoys other people	1	2	3	4	5