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Exploring the associations between teaching behaviors and affect in upper elementary school students before and after controlling for parenting behaviors.

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EXPLORING THE ASSOCIATIONS BETWEEN TEACHING BEHAVIORS AND AFFECT IN UPPER ELEMENTARY SCHOOL STUDENTS BEFORE AND AFTER CONTROLLING FOR PARENTING BEHAVIORS

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DEDICATION

This dissertation is dedicated to the teachers forging positive relationships with their students, and working tirelessly to make a difference in the lives of children everywhere.

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ABSTRACT

EXPLORING THE ASSOCIATIONS BETWEEN TEACHING BEHAVIORS AND AFFECT IN UPPER ELEMENTARY SCHOOL STUDENTS BEFORE AND AFTER CONTROLLING FOR PARENTING BEHAVIORS

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This study explored the associations between student perceived teaching behaviors and negative and positive affect in upper elementary age students, both before and after controlling for perceived parenting behaviors. The Teaching Behavior Questionnaire (TBQ), the Alabama Parenting Questionnaire (APQ), and the Positive and Negative Affect Schedule for Children (PANAS-C) were completed by 777 students in third through fifth grade across nine elementary schools. Two-level hierarchical linear model (HLM) analyses not controlling for parenting behavior found that the Instructional Teaching Behavior scale of the TBQ was negatively associated with negative affect (NA) and positively associated with positive affect (PA). The Socio-Emotional Teaching Behavior scale was positively associated with NA and PA. Negative Teaching Behavior was positively associated with NA but not associated with PA, and the Organizational Behavior scale was not associated with either NA or PA. When parenting behaviors were controlled for in two-level HLM analyses, the NA associations with Instructional Behavior, Negative Teaching Behavior, and Socio-Emotional Behavior held up, but no

associations with PA remained. Implications of the findings for education and mental health personnel are discussed.

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CHAPTER I

TEACHING BEHAVIORS AND STUDENTS' AFFECT

A quick search for "depression" reveals that it is not under-represented in the current literature. Depression is becoming the number one cause of disability in the United States (Mathers & Loncar, 2006), and much is known about its prevalence, treatment, and prevention. However, an overwhelming majority of the existing literature emphasizes these areas in adulthood and adolescence, with clear gaps when it comes to childhood. For example, the Center for Disease Control and Prevention estimates that 4.3% of youth ages 12-17 have depression but fail to even track and report on children under the age of 12 (Pratt & Brody, 2008). Even when data exist about the prevalence, little is known about the predictors or what can be done to prevent it. In an attempt to fill this gap, the current study will explore the relationship between children's affect and their teachers' behaviors.

Unfortunately childhood onset of depression comes with a host of additional problems. Early onset is associated with risk of recurrence of a depressive episode during adulthood and the occurrence of other psychiatric disorders (Dunn & Goodyer, 2006; Kasen et al., 2001; Orvaschel, Lewinsohn, & Seeley, 1995) . In general, major depressive disorder is a recurrent condition with a probability of reoccurrence of 40% by two years and 70% by five years, so school-age onset means potentially more recurring

episodes as the child ages (Rao et al., 1995; Zalsman, Brent, & Weersing, 2006). Childhood onset of depression has been associated with academic failure, substance abuse, behavioral problems, interpersonal problems, and suicide. Additionally, depression is one of the best predictors of school dropout when personal, family, and school factors are examined (Birmaher et al., 1996; Rao et al., 1995; Reinherz, Giaconia, Hauf, Wasserman, & Silverman, 1999). Because depression clearly presents many problems by the age of adolescence, understanding influencing factors in upper elementary school students may be key in prevention efforts.

Research suggests that depressive disorders do exist in children as young as age three, and that the prevalence rate for depression in preschoolers may be as high as 2% (Bufferd, Dougherty, Carlson, Rose, & Klein, 2012). In school-age children the prevalence rate increases significantly, particularly around ages 9-11 years, and up to 9% of youth experience a minimum of one depressive episode by the age of 14 (Abela & Hankin, 2008; Mash & Barkley, 2006). We also know that during the elementary school years, depressive disorders show no gender bias, occurring at the same rate in both girls and boys, unlike adolescence when females are twice as likely to experience symptoms (Birmaher, Ryan, Williamson, & Brent, 1996; Hankin & Abramson, 2002; Lewinsohn, Clarke, Seeley, & Rohde, 1994). In a longitudinal study, depression was accurately predicted in early adolescents from data collected as early as third grade (Ward, Sylva, & Gresham, 2010). Ward et al. found that loneliness, self-concept, critical events, social skills, and academic competence in third grade were all predictors of depression. This is notable when considering prevention efforts and indicates that experiences prior to adolescence have a lasting impact on affect.

Although age, as well as gender, likely influences the clinical presentation of Major Depressive Disorder in children and adolescents (Fu-I & Pang Wang, 2008) the core presentation remains similar. For example, an epidemiological study of clinically depressive symptom profiles in youth ages 7-14 found that irritability was the most prevalent symptom (84%; Liu et al., 2006), but closely followed by depressed mood (78.1%), diminished ability to concentrate (76.5%), fatigue (71.6%), insomnia (63.7%) and feelings of worthlessness (62.7%) which are typical for depression in older age groups as well. Overall, 50-60% of boys and 40-55% of girls with Major Depressive Disorder diagnoses ages 7-10 had recurrent thoughts of death (Liu et al., 2006). In a study of boys ages 6-11 at a child psychiatric center 59% of depressed patients reporting sadness, with 71% reporting suicidal ideation, highlighting the severity of distress these youth are experiencing with their diagnoses (Breton et al., 2012).

During elementary school years, 30-80% of depressed cases also experience anxiety, suggesting significant comorbidity among mood and anxiety disorders (commonly referred to as internalizing disorders; Birmaher et al., 1996; Liu et al., 2006; Zalsman, Brent, & Weersing, 2006). In fact, research has consistently shown a strong link between depression and anxiety disorders in both patient and non-patient populations, with correlation as high as .70 (Burns & Eidelson, 1998). To explain the relation between anxiety and mood disorders, Watson and Clark developed the tripartite model of emotion (1991). The tripartite model posits a way to understand the specific components of anxiety and depression that differentiate them, as well as their overlapping features. Specifically, this model proposes three factors: negative affect (NA), positive affect (PA), and physiological hyperarousal (PH; Clark & Watson, 1991). High levels of

NA, also sometimes referred to as "general emotional distress", is proposed to be a shared factor in both anxiety and depression (Chorpita & Daleiden, 2002). PA and PH are the two factors that differentiate anxiety and depression. The absence of PA (anhedonia) is specific for depression, while PH is specific to anxiety (Clark & Watson, 1991; Chorpita & Daleiden, 2002). Therefore, according to the tripartite model, NA can be considered a nonspecific component of internalizing disorders in general. The tripartite model of emotion has been supported in research with clinical and non-clinical samples of adults, adolescents, and children (Chorpita & Daleiden, 2002; Clark & Watson, 1991; Joiner, Catanzaro, & Laurent; Lonigan, Carey, & Finch, 1994; Lonigan, Hooe, David, & Kistner 1999). In an inpatient sample of children ages 6-17, anxious and depressed children did not differ in regards to general negative affectivity (e.g., sad, lethargic, feeling alone) but were differentiated in regards to PH and low PA (Lonigan, Carey, & Finch, 1994).

From a bioecological perspective of human development, one's interactions with their surrounding environment play an intricate role in growth and development. The model suggests that internal, individual systems, such as temperament, interact with a multilayered and changing environment to impact development (Bronfenbrenner & Morris, 2006). According to Bronfenbrenner, people, institutions, society, and cultural practices all influence and shape children. Specifically, Bronfenbrenner proposed five environmental systems in which interactions occur: microsystem (people), mesosystem (institutions), exosystem (society), macrosystem (cultural practices), and chronosystem (time). The microsystem refers to the most immediate and direct interactions in a child's life, with each system in the sequence becoming more broad and indirect. Thus,

according to Bronfenbrenner, the people interacting with a child daily (parents, teachers) shape the child's developmental trajectory in a significant way.

In fact, research points to many environmental, microsystem-level factors that predict internalizing in youth. Cole and Turner (1993) suggest a cognitive mediation model of depression. This model posits that adverse environmental factors impact cognitive style (the way in which a child thinks about the world), which then impact depression. Particularly, negative competency evaluations by peers were found to be related to negative cognitions, which were related to self-reported symptoms of depression, emphasizing peer influence on affect in fourth, sixth, and eighth grade students. Nolen-Hoeksema, Girgus, and Seligman (1992) also support the theory that adverse environmental factors predict future levels of depression in children. In their five year, longitudinal study with third grade children, they found that negative life events were the most important predictor for depressive symptoms in elementary school. As the children aged and developed cognitively, their cognitive style became a significant predictor of later depressive symptoms. Therefore, environment plays a more significant role in the development of depression in younger children than cognitions (Nolen-Hoeksema, Girgus, & Seligman, 1992). In other studies, academic variables (e.g., achievement scores) have been found to be the best predictors of depression in third and fourth grade, while cognitive variables (e.g., social self-concept) were the most accurate predictors in fifth grade (Ward et al., 2010). It is clear that environmental factors, and specifically negative life events shape the way children think and feel about themselves. The bioecological model suggests that parents, primary caregivers, and other adults, like teachers, that children interact with in their daily life have a great deal of influence in

their growth and development. Therefore, when examining affect in children, it is important to consider interactions with these microsystem-level influences.

Influence of Parenting Behaviors on Children's Affect

Serious maltreatment such as physical, sexual, and emotional abuse are associated with an increase in rates of depressive disorders in youth (Lumley & Harkness, 2007). Psychological maltreatment such as being criticized, yelled at, or treated unfairly has been associated with internalizing problems when all other forms of maltreatment were statistically controlled (McGee, Wolfe, & Wilson, 1997). Research suggests that a variety of other parenting behaviors are also consistently linked with internalizing problems in children. Some studies suggest that up to 59% of children identified as having depressive disorders also reported parent-child relational problems, suggesting a strong association between children's affect and parenting behaviors (Breton et al., 2012). Both positive and negative parenting behaviors have been explored, and significant relationships between specific parenting dimensions and children's affect have been identified (Bayer, Sanson, & Hemphill, 2006; Schwartz et al., 2012; Rapee, 1997; Yap, Schwartz, Byrne, Simmons, & Allen, 2010).

Parental rejection includes negative behaviors toward the child such as criticizing or minimizing the child's feelings, blaming the child and using excessive punishment. This style of parenting has been associated with depressive problems in children, even when adjusting for parental depression (Bayer, Sanson, & Hemphill, 2006; Rapee, 1997; Oldehinkel, Veenstra, Ormel, de Winter, & Verhulst, 2006). Low emotional warmth serves as a predictor for children's depression, and when children perceive large amounts of parental rejection combined with low emotional warmth, they are far more likely to

experience depressive symptoms than children whose parent did not exhibit rejection and low emotional warmth (Bayer et al., 2006; Oldehinkel et al., 2006).

On the other hand, positive parenting behaviors like emotional warmth and high levels of support and involvement were found to predict fewer internalizing difficulties and lower levels of depression (Dallaire et al., 2006; Dittman et al., 2011). Emotional warmth, which refers to giving special attention, praising approved behavior, unconditional love and being supportive and affectionately demonstrative has also been associated with children's affect (Oldehinkel et al., 2006). When mothers used physical contact to soothe or calm their child (warmth) and fathers provide emotional support their child was less likely to be rated in the clinical range for internalizing symptoms than those whose parents did not exhibit these behaviors. These findings are consistent with Johnson and Greenburg, who also found parental support and warmth to be significantly higher in a group of asymptomatic children than a group with internalizing symptoms (2013).

Other parenting styles linked to children's affect include nurturant-involved (positive) and harsh-inconsistent (negative) parenting. Nurturant-involved parenting is typically defined by supportive and engaged parenting behaviors (e.g., "I praise my child") and harsh-inconsistent parenting consists of more coercive or hostile behaviors (e.g., "I lose my temper when my child doesn't do something I ask her to do"; Dallaire et al., 2006). Research suggests that less nurturant-involved parenting and more harsh-inconsistent parenting is positively associated with children's depressive symptoms (Dallaire et al., 2006; Kim et al., 2003; Simons, Whitbeck, Beaman, & Conger, 1994). In a study of elementary school children, parental inconsistency with discipline was related

to the child being rated in the clinical range for internalizing symptoms (Dittman et al., 2001). It seems that attributes of both negative and positive parenting behaviors have a place in the conversation on depressive symptoms in youth, and should be addressed equally in regards to intervention. Information conveyed by parenting behaviors clearly contributes to the formation of self-concept and affective regulation in children. The literature on parenting behaviors' influence on children's depression highlights how important environmental factors may be in contributing to the development of depression in youth. Specifically, behaviors of adults directly involved in children's lives seem to have a significant impact in the emotional well-being of the child. The bioecological model, as well as research on parenting influences, leads to questions about the influence of behaviors from other adults that children interact with in their daily life, like teachers, as well.

Influence of Teaching Behaviors on Children's Affect

Elementary-aged children may spend up to forty hours per week awake with a teacher, an amount of time far greater than that spent with their parents. The influence of teachers on the course of a child's life is enormous and in some cases rivaling even that of the child's parents (Harris & Rosenthal, 2005). Research has already established that a positive teacher-child relationship is important for the academic and behavioral success of a child in school (Baker, 2006; Hamre & Pianta, 2005). Teacher appraisal, which is a factor in teacher-child relationships, contributes to both academic and social-emotional development (Cole, Jacquez, & Maschman, 2001). Children that form close and positive relationships with teachers enjoy school more, get along better with peers, and are at decreased risk for school failure (Hamre & Pianta, 2005). Furthermore, students that

perceive their teacher as supportive and appreciative feel more comfortable in their classroom and tend to report better psychological adjustment (Furrer & Skinner, 2003; Van Ryzin, Gravely, & Roseth, 2009). Therefore, it is plausible to assume that these relationships are impacting children's affect, in addition to academic success. In fact, a longitudinal study found that teacher's emotional support predicted lower levels of adolescent depression overtime, particularly when the adolescent reported high numbers of stressful life events (Pössel, Rudasill, Sawyer, Spence, & Bjerg, 2013). It is important to investigate the mechanisms of these relationships, and break down what components of teaching behavior play a significant role in children's affect.

Previous literature has suggested four broad components of teaching behaviors influence students' academic and social outcomes. (1) Instructional behavior is used by teachers to promote concepts, critical thinking or skill development (Croninger & Valli, 2009; Pianta, LaParo, & Hamre, 2008). (2) Organizational behavior incorporates the methods established by the teacher to minimize disruptions, be efficient and smooth transitions (Connor et al., 2009; Pianta et al). (3) Socio-emotional behavior shows how well the teacher relates to his/her student on a personal level, and includes any behavior marked by supportiveness, warmth, or responsiveness. It may or may not be used during instructional time, and encourages students' feelings of acceptance in the classroom (Connor et al., 2009; Pianta et al., 2008; Study 2, Pössel, Rudasill, Adelson, Bjerg, Wooldridge, & Winkeljohn Black, 2013). (4) Negative teaching behaviors are those considered unpleasant or counter-productive by the student (Study 2; Pössel, Rudasill, Adelson et al., 2013).

In three studies designed to measure specific and concrete teaching behaviors as perceived by public and private high school students as well as private middle school students, many associations were found. See Table 1 for a summary of these findings. (1) Instructional teaching behavior was negatively associated with NA and not associated with PA in students in public high school (Study 2, Pössel, Rudasill, Adelson et al., 2013) and not associated with depressive symptoms in students in private high school (Pittard, Pössel, & Smith, in press). However, in students in private middle school, it was negatively associated with depressive symptoms (Pittard et al., in press). Using the tripartite model of emotion (Clark & Watson, 1991), this could indicate associations with both PA and NA at the middle school level. This pattern of findings could be suggesting that these associations become stronger in younger children. In an upper elementary school sample, we might expect negative associations with NA and positive associations with PA. (2) Higher levels of organizational teaching behavior were associated with lower levels of NA and not associated with PA in public high school students (Study 2, Pössel, Rudasill, Adelson et al., 2013), and not associated with depressive symptoms in private high school students (Pittard et al., in press). However, it was positively associated with depressive symptoms in private middle school students (Pittard et al., in press). These findings are confusing at best, demonstrating that organizational teaching behavior is associated with decreases in NA in high school students but associated with higher levels of depressive symptoms in middle school. It could be that the relationship between perceived organizational teaching behaviors and students' affect changes over time. Perhaps high school students perceive teachers behaviors such as explaining why misbehavior is wrong and explaining classroom rules differently than their younger

counterparts. Possibly, as organizational behavior increases in the classroom, younger students interpret it as critical and resulting in a negative self-view which is associated with depression (Alloy et al., 2012; Pittard et al., in press). Therefore, in an elementary school sample we would predict a positive association with NA and a negative association with PA, consistent with the tripartite model of depression (Clark & Watson, 1991). (3) Socio-emotional teaching behavior was positively associated with both NA and PA in public high school students (Study 2, Pössel, Rudasill, Adelson et al., 2013) and not associated with depressive symptoms in private middle or high school students (Pittard et al., in press). These positive associations with NA and PA can be interpreted as canceling one another out, therefore resulting in non-significant associations with depression, based on the tripartite model (Clark & Watson, 1991). We would expect that in elementary students the associations between socio-emotional behaviors and NA and PA would remain consistent with the previous studies, and both relationships would be positive. (4) Negative teaching behavior was associated with less PA and more NA in public high school students (Study 2; Pössel, Rudasill, Adelson et al., 2013), and positively related to depressive symptoms in private high school students (Pittard et al., in press). However, there were no associations with depressive symptoms found in middle school students (Pittard et al., in press). It is possible that in the middle school sample only one part of depression as postulated by the tripartite model of emotion (Clark & Watson, 1991) was significant and therefore would not be detected when measuring depressive symptoms as a whole. Either high NA or low PA could have been independently associated with negative teaching behaviors, but these two components were not looked at separately in the middle school study. Replication of a middle school

study using NA and PA could help clarify the relationships of the two components of affect with negative teaching behaviors. It is also plausible that these associations weaken with younger samples. However, in an elementary school sample, we could predict that the same NA and PA associations that were significant in the high school sample would be detected. Despite the complex pattern of previous findings, it is still plausible that teaching behaviors that are perceived as negative such as threatening to punish students, and not following through with consequences, would still be associated with higher NA and lower PA across the school year.

Table 1.

Summary of the Previous Teaching Behavior Questionnaire Findings in Middle and High School Samples

Subscale	**Sample**	**Results**
Instructional Behavior	Public High School	Negatively associated with NA Not associated with PA
	Private High School	Not associated with depressive symptoms
	Private Middle School	Positively associated with depressive symptoms
Organizational Behavior	Public High School	Negatively associated with NA Not associated with PA
	Private High School	Not associated with depressive symptoms
	Private Middle School	Positively associated with depressive symptoms
Socio-Emotional Behavior	Public High School	Positively associated with both NA and PA
	Private High School	Not associated with depressive symptoms
	Private Middle School	Not associated with depressive symptoms
Negative Teaching Behavior	Public High School	Positively associated with NA

		Negatively associated with PA
	Private High School	Positively associated with depressive symptoms
	Private Middle School	Not associated with depressive symptoms

Note. NA = Negative Affect; PA = Positive Affect. Findings from Pössel, Rudasill, Adelson et al., 2013 and Pittard, Pössel, & Smith, in press.

In summary, the goal of this study is to attempt to investigate the relationship between student-perceived teaching behaviors and students' affect in a community sample of upper elementary school students. By understanding the relationship between teaching behaviors and students' affect at this earlier developmental stage, prevention could be more effective. Teacher-targeted programs designed to enhance PA and reduce NA in students could help reduce the prevalence rate of depressive disorders in youth. Thus, this study aims to look at the associations between PA and NA and perceived teaching behaviors in upper elementary school students. However, the clearly established link between parenting behaviors and affect cannot be ignored. Therefore, this study aims to also explore the contribution to PA and NA that perceived teaching behaviors make above and beyond perceived parenting behaviors.

Consistent with the findings of previous studies (Pittard et al., in press; Pössel, Rudasill, Adelson et al., 2013), it is expected that there will be significant relationships between the teaching variables of (a) organizational, (b) socio-emotional, (c) negative, and (d) instructional teaching behaviors and NA. Specifically, positive relationships between organizational, socio-emotional, and negative teaching behaviors and NA are expected. Further, it is expected that there will be a negative relationship between instructional teaching behavior and NA. There are also significant relationships expected between teaching behaviors and PA. Specifically, it is expected that both instructional and socio-emotional teaching behaviors will yield positive relationships with PA. It is also expected that organizational and negative teaching behaviors will be negatively associated with PA. Finally, it is expected that all of these associations will be significant when accounting for perceived parenting behaviors.

CHAPTER II

METHOD

Participants

In the 2013-2014 academic year, participants were recruited from four school districts in Southern Indiana and Kentucky including urban (Jefferson County Public Schools [JCPS], Greater Clark County Schools [GCCS]) and rural school districts (Montgomery County Public Schools [MCPS], Berea Independent Schools [BIS]). Of the 2,193 students in grades 3 to 5 at nine elementary schools, 777 volunteered to participate in this study (participation rate: 35.43%). Grade levels included were third grade (35.5%), fourth grade (32.2%), and fifth grade (32.2%) and the group consisted of 334 (43%) males and 443 (57%) females. Self-reported races/ethnicities represented in the sample include Asian/Pacific-Islander (n = 27; 3.5%), Black (n = 137; 17.6%), Hispanic (n = 40; 5.1%), Native American/Alaskan (n = 13; 1.7%), Mixed (n = 159; 20.5%), White (n = 395; 50.8%), and Other (n = 3; .4%). Students that identified as Other reportedly identified as African, Indian, and Puerto Rican.[1]

[1]Our study was limited in its ability to analyze race/ethnicity because the self-reported demographics are inconsistent with the known demographics in the schools surveyed. Investigators suggest that children's cognitive understanding of race/ethnicity progresses in developmental levels, and from 6-10 years of age children have a very literal understanding of race and ethnicity (Quintana, 1998). Additionally, non-marginalized children may have more difficulty identifying race/ethnicity and our

Procedure

This study was approved by the University of Louisville IRB and the Jefferson County Public Schools IRB. All elementary school principals in the selected school districts were invited to participate via email. The researchers worked with principals that expressed interest in participating to coordinate parental consent and scheduling of the data collection. Students were recruited through letters to their parents. Parental consent forms went out to students about 3-6 weeks before data collection began. All families were encouraged to return the consent form, regardless of their decision to participate. Only students whose parents return a consent form with permission to participate were permitted to complete the questionnaire.

Data were collected through questionnaires that were read out loud by the research team in the schools, and students completed hardcopies of the measures. The research team worked with school principals to coordinate locations within the schools to pull out the students that were able to participate. Each administration was done by grade level with a minimum of two researchers present to read items, answer questions, and monitor behavior. The questionnaires, as part of a larger set of instruments, took approximately 60 minutes to complete. Student data were not attached to identifying information but were coded by class in order to identify level-2 clusters.

Measures

Teaching Behavior Questionnaire (TBQ). The TBQ (Pössel, Rudasill, Adelson et al., 2013) was developed as a way to measure students' perceptions of concrete and

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population was predominately white (Dulin-Keita, Hannon Iii, Fernandez, & Cockerham, 2011). During data collection, it was observed that many youth did not how to identify, and there may have been a literal misinterpretation of Native American, leading to an over-reporting of "mixed" identities.

specific teaching behaviors. It consists of 37 items measuring four scales: Instructional Behavior (13 items; e.g., 'My teacher uses examples that I understand'), Socio-Emotional Behavior (10 items, e.g., 'My teacher talks with me about my interests'), Organizational Behavior (5 items, e.g., 'My teacher takes away a privilege if I abuse it'), and Negative Teaching Behaviors (9 items, e.g., 'My teacher threatens to punish me when I misbehave.′). Frequency of behavior is rated on a Likert scale ranging from 1 (never) to 4 (always). Item values are averaged, creating a score ranging from 1 to 4 for each scale. Internal consistency for these scales in two high school samples was high, ranging from α = .77 to .97 (Pössel, Rudasill, Adelson et al., 2013). See Table 2 for the descriptive statistics and internal consistency scores for the TBQ scales.

Confirmatory factor analysis in a high school sample provided some support for the four-factor TBQ model, although not all goodness of fit indices were in the acceptable range (χ^2 (623, N = 763) = 3676.30, p < .001, RMSEA (.080), CFI (.876), NFI (.855); Study 2, Pössel, Rudasill, Adelson et al., 2013). This instrument had not been previously validated in elementary school students; therefore, confirmatory factor analyses were run. The CFA with these data demonstrated that the four-factor structure was also the best fitting model in this elementary student sample, even though only RMSEA was in the acceptable range (χ^2 (623, N = 777) = 1934.10, p < .001, RMSEA (.052), CFI (.794), TLI (.767)).

Alabama Parenting Questionnaire (APQ). The APQ (Frick, 1991) is a 42-item instrument designed to tap the most important aspects of parenting practices. The items load onto six subscales: Parental Monitoring and Supervision (10 items, e.g., 'Your parent get so busy that they forget where you are and what you are doing.'), Inconsistent

Punishment (6 items, e.g., 'Your parent(s) do not punish you when you have done something wrong.'), Corporal Punishment (3 items, e.g., 'Your parent(s) spank you with their hand when you have done something wrong.') , Positive Parenting (6 items, e.g., 'Your parent(s) praise you for behaving well.'), Involvement (10 items, e.g., 'Your parent(s) help you with your homework.'), and Other Discipline Practices (7 items, e.g., 'Your parent(s) send you to your room as a punishment.'). Students were asked to answer the APQ questions based on the adult they spend the most time with (e.g. (foster or step)mother, (foster or step)father, grandmother, grandfather, uncle, aunt, or someone else that helps take care of them). Items are rated on a 5-point frequency scale ranging from 1 (never) to 5 (always) and are summed to produce each subscale total. The scores on these subscales have been demonstrated to have mixed internal consistency in 6- to 13-year-old children, ranging from $\alpha = .44$ to .83 (Shelton, Frick & Wootton, 1996). See Table 2 for the descriptive statistics and internal consistency scores for the APQ subscales.

Positive Affect and Negative Affect Schedule for Children (PANAS-C). The PANAS-C (Laurent et al., 1999) is a 30-item scale that measures mood and affect in young children. It was developed to serve as a screening measure to differentiate children who are anxious from those who are depressed. Individuals indicate how often they have experienced certain "feelings and emotions" during the past few weeks, on a 5-point Likert scale ranging from 1 (very slightly or not at all) to 5 (extremely). The items on the scale separate into two subscales: Positive Affect (PANAS-PA, 15 items, e.g., 'Interested', 'Excited') and Negative Affect (PANAS-NA, 15 items, e.g., 'Sad', 'Scared', 'Gloomy'). Items on each subscale are totaled to produce a sum PA and sum NA score.

Internal consistency of both subscales have been acceptable in fourth to eighth grade students, ranging from $\alpha = .89$ to .94 (Laurent et al., 1999). See Table 2 for the descriptive statistics and internal consistency scores for the PANAS subscales.

Table 2.

Descriptive Data, Internal Consistency and Correlations between All Used Instruments.

	TBQIB	TBQNTB	TBQSEB	TBQOB	APQINV	APQPP	APQPMS	APQIP	APQCP	PANAS-PA	PANAS-NA
TBQIB	.86										
TBQNTB	-.31**	.67									
TBQSEB	.56**	-.03	.77								
TBQOB	.36**	.18**	.35**	.57							
APQINV	.20**	.06	.23**	.23**	.77						
APQPP	.18**	.08*	.25**	.22**	.71**	.80					
APQPMS	-.25**	.30**	-.02	-.03	-.07*	-.07	.79				
APQIP	-.11**	.27**	.05	.02	.04	.04	.54**	.63			
APQCP	-.17**	.19**	-.07	-.01	-.14**	-.14**	.30**	.27**	.71		
PANAS-PA	.24**	.00	.22**	.17**	.31**	.37**	-.10**	.00	-.07	.85	
PANAS-NA	-.23**	.27**	-.02	-.07	-.10**	-.12**	.26**	.21**	.25**	-.15**	.88
Mean	41.67	18.04	24.34	16.00	36.77	23.91	12.02	14.30	5.65	28.12	55.65
SD	7.26	5.03	6.21	3.16	7.18	5.11	0.80	4.90	3.11	11.45	11.48
Range	13-52	9-36	10-40	5-20	10-50	6-30	11-15	6-30	3-15	15-75	15-71

Note. $N = 767$ for all variables. Internal consistencies are presented in the diagonal. TBQIB = Teaching Behavior Questionnaire, Instructional Behavior; TBQNTB = Teaching Behavior Questionnaire, Negative Teaching Behavior; TBQSEB = Teaching Behavior Questionnaire, Socio-Emotional

Behavior; TBQOB = Teaching Behavior Questionnaire, Organizational Behavior; APQINV = Alabama Parenting Questionnaire, Involvement; APQPP = Alabama Parenting Questionnaire, Positive Parenting; APQPMS = Alabama Parenting Questionnaire, Parental Monitoring and Supervision; APQIP = Alabama Parenting Questionnaire, Inconsistent Punishment; APQCP = Alabama Parenting Questionnaire, Corporal Punishment; APQODP = Alabama Parenting Questionnaire, Other Discipline; PANAS-PA = Positive and Negative Affect Schedule for Children, Positive Affect; PANAS-NA = Positive and Negative Affect Schedule for Children, Negative Affect. ** $p < .001$; * $p < .05$

Data Analysis

Due to the cross-sectional design of this study, there were very few problems with attrition of participants and missing data. To explore missingness, descriptive analyses were calculated on each item. Out of the 777 participants from who data were collected, on the TBQ items, there were 747-775 who answered each item. The item with the largest amount of missing data only had 3.9% missing. On the APQ, 753-773 completed the items and the item with the largest amount of missing data had 3.1% missing. Finally, on the PANAS-C, 761-776 answered each item with 2.1% missing on the item with the most missing. Because such a small fraction of items were missing data, mean substitution was used to compute the scale scores.

In building the multi-level modeling of NA and PA, HLM Version 7.01 (Raudenbush, Bryk, Cheong, & Congdon, 2011) was used to conduct a series of analyses. HLM addresses the unit of analysis problem and enhances precision of estimates over methods that do not account for non-independence (McCoach & Adelson, 2010; Raudenbush & Bryk, 2002). Full information maximum likelihood (FIML) estimation methods were used, as recommended for robustness (Garson, 2013). Ten cases were lost due to listwise deletion when creating the .mdm file. The final analytic sample had 767 students at level 1 and 83 clusters at level 2 (M = 9.46; SD = 5.55; Range = 1-31). All analyses were completed first for predicting NA, than replicated with PA.

There is a great amount of cognitive growth as well as increases in sustained attention during elementary school (Howe, 1993); therefore, checking for significant differences in the grade levels occurred prior to analyses. To explore whether there were significant differences between third, fourth, and fifth graders in NA and PA, we ran two

two-level models. Regression weights were not statistically different for either model, indicating that there were not statistically significant differences in PA ($\gamma_{10} = 0.00$, $SE = 0.64$, $p = 1.00$) or NA ($\gamma_{10} = 0.25$, $SE = 0.67$, $p = .70$) between grade levels.

For PANAS-NA and PANAS-PA, we conducted separate analyses using the following general analytic approach. First, we estimated a null three-level model to examine the proportion of variance at each level to determine whether to control for school. Next, we estimated an unconditional two-level model to calculate the intra-class correlation and then added dummy codes for school to create a baseline model. To examine the hypotheses of interest, we built three series of models with varying predictors: TBQ only, APQ only, and TBQ and APQ combined. Using the models we computed four different proportions of variance explained (PVE) for each outcome: the PVE by TBQ only, the PVE by APQ only, the PVE explained by TBQ and APQ combined, and the PVE by TBQ above and beyond what APQ explained. For the first three calculations, we compared the model to the baseline model. For the fourth calculation, we compared the model with TBQ and APQ with the model with only APQ.

CHAPTER III

RESULTS

PANAS-NA Intra-Class Correlation at Three Levels

To investigate differences in NA and the relationship with perceived teaching behaviors after controlling for perceived parenting behaviors, a series of multi-level models were specified and compared. First, a preliminary three-level unconditional model was specified with PANAS-NA as the outcome, to determine the amount of variance that existed between and within the grouping variables of teacher and school (Raudenbush & Bryk, 2002). Results from the unconditional model revealed that there was within-classroom ($\sigma^2 = 122.46$) as well as between-classroom ($\tau\pi = 6.21$, $p = .007$) and between-school variance ($\tau\beta = 2.45$, $p = .017$). Intra-class correlation demonstrated that 93.40% of the variance in NA was between students within classrooms, 4.74% was between classrooms within schools, and 1.87% between schools.

Two-level Baseline PANAS-NA Model

Next, a two-level unconditional model was specified with no level-1 predictors and schools entered to predict the intercept on level-2. Because classrooms were nested within a small number of clusters (nine schools), school differences were accounted for at level 2 rather than running a 3-level model. In the null model, the intra-class correlation demonstrated that 96.70% of the variance in NA was between students within classrooms

and 3.26% was between classrooms. Then, the nine schools where data were collected were dummy-coded and all but one entered in to the model. This model served as a baseline so that all remaining analysis could be interpreted with school being a controlled variable.

The Relationship between TBQ and PANAS-NA

A random coefficients model was specified using the four TBQ variables (negative teaching behaviors (NB), socio-emotional behaviors (SE), instructional behaviors (IB), and organizational behaviors (OB)) as predicting variables, centered around the grand mean, and PANAS-NA as the outcome. This provided estimates of between-group variability in intercepts and slopes. Initially, all TBQ variables were specified as randomly varying, but non-significant random effects were fixed one at a time and each trimmed model was compared to the previous model using the chi-square difference test and AIC and BIC comparisons. Parameters and random effects of the final TBQ model can be seen in Table 3. The final specified teaching behaviors only model for teaching behaviors was:

Level-1 Model: $PANAS\text{-}NA_{ij} = \beta_{0j} + \beta_{1j}*(TBQIB_{ij}) + \beta_{2j}*(TBQNTB_{ij}) + \beta_{3j}*(TBQSEB_{ij}) + \beta_{4j}*(TBQOB_{ij}) + r_{ij}$

Level-2 Model: $\beta_{0j} = \gamma_{00} + \gamma_{01}*(SCHOOL2_j) + \gamma_{02}*(SCHOOL3_j) + \gamma_{03}*(SCHOOL4_j) + \gamma_{04}*(SCHOOL5_j) + \gamma_{05}*(SCHOOL6_j) + \gamma_{06}*(SCHOOL7_j) + \gamma_{07}*(SCHOOL8_j) + \gamma_{08}*(SCHOOL9_j) + u_{0j}$

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20} + u_{2j}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40} + u_{4j}$

The mean of the intercepts (γ00), which is the average NA score across classes for a student with average teaching behaviors scores, after controlling for school, is statistically different from zero (γ00 = 30.85, $p < .001$). The γ10 value represents the differential of perceived instructional teaching behaviors on NA (the slope), after controlling for other perceived teaching behaviors, and school. The γ10 intercept is statistically significant (γ10 = -0.34, $p = <.001$), indicating that for every 1-unit increase in instructional behavior, NA decreases by 0.34. The effect of negative teaching behaviors on NA was positive and statistically significant (γ20 = 0.48, $p < .001$), suggesting that as teacher's negative teaching behaviors increase, NA in students also increases. Additionally in the model are the changes in NA for every 1-unit increase in socio-emotional behavior (γ30 = 0.26, $p = .001$). This suggests that socio-emotional teaching behaviors are positively and significantly related to increases in NA in children. Finally, teaching organizational behaviors were not found to be statistically significantly related to NA (γ40 = -0.27 $p = .08$), after controlling for other teaching behaviors, and school.

Table 3.

Parameter Estimates of Negative and Positive Affect in the Teaching Behaviors Models

	Negative Affect Model			**Positive Affect Model**		
Fixed Effect	Parameter Estimate		*SE*	Parameter Estimate		*SE*
Fixed effect Intercept (γ_{00})	30.85**		1.36	57.12**		1.47
Instructional Behavior (γ_{10})	-0.34**		0.07	0.19*		0.08
Negative Teaching Behavior (γ_{20})	0.48**		0.10	0.05		0.09
Socio-Emotional Behavior (γ_{30})	0.26**		0.08	0.20*		0.08
Organizational Behavior (γ_{40})	-0.27		0.15	0.24		0.14
Variance Components	Variance	df	χ^2	Variance	df	χ^2
Within-classroom variance (σ^2)	104.96			116.13		
Between-classroom variance (τ_{00})	1.80*	67	95.63	2.99*	73	105.19
Negative Teaching Behaviors	0.15*	75	98.92			
Organizational Behaviors	0.20	75	94.05			

Note. SE = standard error; ** $p < .001$; * $p < .05$. This model controlled for school using nine dummy codes at level-2 predicting the intercepts, but these parameters are omitted for space.

Compared to the baseline model, teaching behaviors account for 14.16% of the variance in NA within classrooms and 56.31% of the variance between classrooms (see Table 4). In contrast, we also ran a model with the APQ only to compare this to the proportion of variance that parenting behaviors account for in NA. The APQ did explain 19.05% of within-class variability; however, it did not explain any variability between classes.

Table 4.

Proportion of Within and Between-Classroom Variance Explained by Each Model

	Negative Affect Model		**Positive Affect Model**	
Model	Within Class Variance (σ^2)	Between Class Variance (τ_{00})	Within Class Variance (σ^2)	Between Class Variance (τ_{00})
Teaching Behavior Only	14.16%	56.31%	4.58%	31.26%
Parenting Behavior Only	19.05%	0.00%	12.21%	54.71%
Teaching & Parenting Combined	31.28%	11.17%	13.03%	78.85%
Teaching Above and Beyond Parenting	12.23%	--	0.82%	24.14%

Note. All between-classroom variability in NA is explained by teaching behaviors, with none explained by parenting behaviors.

The Relationship between TBQ and PANAS-NA, After Controlling for Parenting Behaviors

To test these same associations after controlling for parenting, a random coefficients model was specified using the APQ subscales (parental monitoring and supervision (PMS), inconsistent punishment (IP), corporal punishment (CP), positive parenting (PP), and involvement (INV)) as predicting variables and PANAS-NA as the outcome. Each of the five APQ subscales was centered around the grand mean so that their averages became a meaningful zero. Initially, all APQ variables were allowed to randomly vary but non-significant random effects were fixed one at a time to specify the best fitting model. Each trimmed model was compared to the previous model using the chi-square difference test and AIC and BIC comparisons. After the APQ model was specified, the four TBQ variables were entered as predictors, centered around the grand mean. The model was trimmed by fixing non-significant random effects and using chi-square difference, AIC, and BIC to specify the best fitting model. The final specified parenting and teaching behaviors model for teaching and parenting behaviors was:

Level-1 Model: $PANAS\text{-}NA_{ij} = \beta_{0j} + \beta_{1j}*(TBQIB_{ij}) + \beta_{2j}*(TBQNTB_{ij}) + \beta_{3j}*(TBQSEB_{ij}) + \beta_{4j}*(TBQOB_{ij}) + \beta_{5j}*(APQINV_{ij}) + \beta_{6j}*(APQPP_{ij}) + \beta_{7j}*(APQPMS_{ij}) + \beta_{8j}*(APQIP_{ij}) + \beta_{9j}*(APQCP_{ij}) + r_{ij}$

Level-2 Model: $\beta_{0j} = \gamma_{00} + \gamma_{01}*(SCHOOL2_j) + \gamma_{02}*(SCHOOL3_j) + \gamma_{03}*(SCHOOL4_j) + \gamma_{04}*(SCHOOL5_j) + \gamma_{05}*(SCHOOL6_j) + \gamma_{06}*(SCHOOL7_j) + \gamma_{07}*(SCHOOL8_j) + \gamma_{08}*(SCHOOL9_j) + u_{0j}$

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20} + u_{2j}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40} + u_{4j}$

$\beta_{5j} = \gamma_{50}$

$\beta_{6j} = \gamma_{60} + u_{6j}$

$\beta_{7j} = \gamma_{70}$

$\beta_{8j} = \gamma_{80} + u_{8j}$

$\beta_{9j} = \gamma_{90}$

Table 5 contains the estimates of the fixed effects for the final model. The mean of the intercepts (γ00), which is the average NA score across classes for a student with average teaching and parenting behaviors scores, after controlling for school, is statistically different from zero (γ00 = 30.61, $p < .001$). The γ10 value represents the differential of perceived instructional teaching behaviors on NA (the slope), after controlling for perceived parenting behaviors, other perceived teaching behaviors, and school. The γ10 intercept is statistically significant (γ10 = -0.22, $p = .003$), indicating that for every 1-unit increase in instructional behavior, NA decreases by 0.22. The effect of negative teaching behaviors on NA was positive and statistically significant (γ20 = 0.35, $p < .001$), suggesting that as teacher's negative teaching behaviors increase, NA in students also increases. Additionally in the model are the changes in NA for every one-unit increase in socio-emotional behavior (γ30 = 0.26, $p < .001$). This suggests that after controlling for perceived parenting behaviors, increases in socio-emotional teaching behaviors are positively and significantly related to increases NA in children. Finally, teaching organizational behaviors were not found to be statistically significantly related

to NA ($\gamma 40 = 0.26$ $p = .40$), after controlling for parenting behaviors, other teaching behaviors, and school.

Table 5.

Parameter Estimates of Negative and Positive Affect in the Parenting and Teaching Behaviors Models

	Negative Affect Model			**Positive Affect Model**		
Fixed Effect	Parameter Estimate		*SE*	Parameter Estimate		*SE*
Fixed effect Intercept (γ_{00})	30.61**		1.27	56.46**		1.30
Instructional Behavior (γ_{10})	-0.22**		0.07	0.14		0.07
Negative Teaching Behavior (γ_{20})	0.35**		0.10	0.01		0.09
Socio-Emotional Behavior (γ_{30})	0.26**		0.07	0.10		0.08
Organizational Behavior (γ_{40})	-0.14		0.17	0.08		0.14
Parenting Involvement (γ_{50})	0.02		0.07	0.09		0.07
Positive Parenting (γ_{60})	-0.03*		0.12	0.61**		0.11
Poor Monitoring and Supervision(γ_{70})	2.02**		0.57	-1.25*		0.59
Inconsistent Punishment (γ_{80})	0.06		0.11	0.08		0.09
Corporal Punishment (γ_{90})	0.53**		0.12	0.08		0.13
Variance Components	Variance	df	χ^2	Variance	df	χ^2

Within-classroom variance (σ^2)	84.03			105.84		
Between-classroom variance (τ_{00})	3.67*	60	86.41	0.92	73	93.22
Negative Teaching Behaviors	0.14*	68	90.90			
Organizational Behaviors	0.68**	68	112.85			
Positive Parenting	0.26*	68	94.29			
Inconsistent Punishment	0.19*	68	99.84			

Note. SE = standard error; ** $p < .001$; * $p < .05$. This model controlled for school using nine dummy codes at level-2 predicting the intercepts, but these parameters are omitted for space.

Parenting and teaching behaviors together account for 31.28% of the variance in NA within classrooms (Table 4). No additional variance was explained between classrooms in this combined model, and the APQ increased the variability. This provides incremental validity evidence for the TBQ as it explained an additional 12.23% of the within-classroom variance in NA over the APQ alone. Additionally, although the APQ did not explain any between-class variability in NA, the TBQ did.

PANAS-PA Intra-Class Correlation at Three Levels

The above analyses were replicated with PA to explore the relationship between PA and perceived teaching behaviors. Results from the unconditional model revealed that there was significant between-classroom ($\tau\pi = 7.73$, $p = .002$) and between-school variance ($\tau\beta = 3.35$, $p = .008$). Intra-class correlation demonstrated that 91.62% of the variance in NA was between students within classrooms, 5.85% was between classrooms within schools, and 2.53% between schools.

Two-level Baseline PANAS-PA Model

Because classrooms were nested within a small number of schools, a third level could not be modeled so school differences were accounted for at level 2. A two-level unconditional model was specified with no level-1 predictors. In this null model, the intra-class correlation demonstrated that 96.55% of the variance in PA was between students within classrooms and 3.45% was between classrooms. Next, schools were entered at level 2 predicting the intercept, such that all remaining analysis could be interpreted with school being a controlled variable.

The Relationship between TBQ and PANAS-PA

Next, a random coefficients model was specified using the four TBQ variables as predicting variables and PANAS-PA as the outcome. Each variable was centered around the grand mean to provide a meaningful zero. All TBQ variables were specified as randomly varying, but non-significant random effects were fixed one at a time during model specification. Trimmed models were each compared to the previous model using the chi-square difference test and AIC and BIC comparisons. Parameters and random effects of the final TBQ model can be seen in Table 3. The final specified teaching behaviors only model for teaching behaviors was:

Level-1 Model: $PANAS\text{-}PA_{ij} = \beta_{0j} + \beta_{1j}*(TBQIB_{ij}) + \beta_{2j}*(TBQNTB_{ij}) + \beta_{3j}*(TBQSEB_{ij}) + \beta_{4j}*(TBQOB_{ij}) + r_{ij}$

Level-2 Model: $\beta_{0j} = \gamma_{00} + \gamma_{01}*(SCHOOL2_j) + \gamma_{02}*(SCHOOL3_j) + \gamma_{03}*(SCHOOL4_j) + \gamma_{04}*(SCHOOL5_j) + \gamma_{05}*(SCHOOL6_j) + \gamma_{06}*(SCHOOL7_j) + \gamma_{07}*(SCHOOL8_j) + \gamma_{08}*(SCHOOL9_j) + u_{0j}$

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

The average PA score ($\gamma 00$) across classes for a student with average teaching behaviors scores, after controlling for school, is statistically different from zero ($\gamma 00 = 57.12$, $p < .001$). The $\gamma 10$ value represents the differential of perceived instructional teaching behaviors on PA (the slope), after controlling for other perceived teaching behaviors, and school. The $\gamma 10$ intercept is statistically significant ($\gamma 10 = 0.19$, $p = .01$), indicating that for every 1-unit increase in instructional behavior, PA increases by 0.19.

The effect of negative teaching behaviors on PA was not statistically significant ($\gamma 20 = 0.05$, $p = .06$). Additionally, for every 1-unit increase in socio-emotional behavior, PA increases by 0.20 ($\gamma 30 = 0.20$, $p = .01$). Finally, teaching organizational behaviors were not found to be statistically significantly related to PA ($\gamma 40 = 0.24$, $p = .10$), after controlling for other teaching behaviors and school.

Teaching behaviors accounted for 4.58% of the variance in PA within classrooms and 31.26% of the variance between classrooms (Table 4). In contrast, we also ran a model with the APQ only to compare this to the proportion of variance that parenting behaviors account for in PA, which was 12.21% within classes and 54.71% between classrooms.

The Relationship between TBQ and PANAS-PA, After Controlling for Parenting Behaviors

A random coefficients model was specified using the APQ subscales as predicting variables and PANAS-PA as the outcome. Each of the five APQ subscales was centered around the grand mean. Initially, all APQ variables were specified as randomly varying, but non-significant random effects were fixed one at a time and each trimmed model was compared to the previous model using the chi-square difference test and AIC and BIC comparisons. After the APQ model was specified, the four TBQ variables (negative teaching behaviors (NB), socio-emotional behaviors (SE), instructional behaviors (IB), and organizational behaviors (OB)) were entered as predictors, also centered around the grand mean. The model was trimmed by fixing non-significant random effects and using chi-square difference, AIC and BIC to specify the best fitting model. The final specified parenting and teaching behaviors model was:

Level-1 Model: $PANAS\text{-}PA_{ij} = \beta_{0j} + \beta_{1j}*(TBQIB_{ij}) + \beta_{2j}*(TBQNTB_{ij}) + \beta_{3j}*(TBQSEB_{ij}) + \beta_{4j}*(TBQOB_{ij}) + \beta_{5j}*(APQINV_{ij}) + \beta_{6j}*(APQPP_{ij}) + \beta_{7j}*(APQPMS_{ij}) + \beta_{8j}*(APQIP_{ij}) + \beta_{9j}*(APQCP_{ij}) + r_{ij}$

Level-2 Model: $\beta_{0j} = \gamma_{00} + \gamma_{01}*(SCHOOL2_j) + \gamma_{02}*(SCHOOL3_j) + \gamma_{03}*(SCHOOL4_j) + \gamma_{04}*(SCHOOL5_j) + \gamma_{05}*(SCHOOL6_j) + \gamma_{06}*(SCHOOL7_j) + \gamma_{07}*(SCHOOL8_j) + \gamma_{08}*(SCHOOL9_j) + u_{0j}$

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5j} = \gamma_{50}$

$\beta_{6j} = \gamma_{60}$

$\beta_{7j} = \gamma_{70}$

$\beta_{8j} = \gamma_{80}$

$\beta_{9j} = \gamma_{90}$

Again, Table 5 contains the estimates of the fixed effects for this final model. The average PA score across classes for a student with average teaching and parenting behaviors scores, after controlling for schools, is statistically different from zero ($\gamma 00 = 56.46$, $p < .001$). The $\gamma 10$ intercept is the differential of perceived instructional teaching behaviors on PA (the slope), after controlling for perceived parenting behaviors, other perceived teaching behaviors, and school. The $\gamma 10$ intercept was not statistically significant ($\gamma 10 = 0.14$, $p = .06$), indicating no relationship between instructional behavior and PA. Negative teaching behaviors was also not significantly related to PA

($\gamma 20 = 0.01$, $p = .94$). Additionally, in the model the $\gamma 30$ intercept was not significant, demonstrating no relationship between socio-emotional behaviors and PA ($\gamma 30 = 0.10$, $p = .21$). Finally, teaching organizational behaviors were not found to be statistically significantly related to PA ($\gamma 40 = 0.08$ $p = .55$), after controlling for parenting behaviors, other teaching behaviors and school.

Parenting and teaching behaviors together account for 13.03% of the variance in PA within classrooms and 78.85% of the variance between classrooms. This provides incremental validity evidence for the TBQ explaining variability in PA, above and beyond the APQ. Although adding the TBQ to the APQ model only explained an additional 0.82% variability within classes, it explained an additional 24.14% of variability between classes.

Summary of Results

In sum, HLM was used to explore the relationships between perceived teaching behaviors and NA and PA, after controlling for schools. Next, these same relationships were explored after controlling for perceived parenting behaviors as well. Models using each predictor were specified by fixing random effects one at a time and using model fit comparisons (Chi-square difference, AIC, and BIC). Table 6 summarizes the relationships in the teaching behavior only and the final parenting and teaching behaviors models compared to the hypotheses. In the teaching behaviors only model predicting NA, there was a significant, negative relationship between instructional behavior and NA. It also demonstrated a significant, positive relationship with negative teaching behavior and NA. Lastly, socio-emotional behavior was significantly, positively related to NA. The relationship between NA and organizational behavior was not significant. The

model predicting PA only with teaching behaviors demonstrated significant positive relationships with instructional and socio-emotional behaviors, but no associations with negative teaching behavior or organizational behavior. The models predicting NA with teaching behaviors only and with parenting and teaching behaviors yielded similar relationships. However, there were no teaching behaviors that significantly predicted PA after controlling for perceived parenting behaviors.

As shown in Table 4, teaching behaviors did have incremental validity in predicting NA and PA. Teaching behaviors alone predicting NA accounted for 14.16% of the variance within classrooms and 56.31% between classrooms and predicting PA accounted for 4.58% of the variance within classrooms and 31.26% between classrooms. Parenting and teaching behaviors together account for 31.28% of the within-classroom and no additional between-classroom variance in NA and 13.03% of the within-classroom and 78.85% of the between-classroom variance in PA. Of particular interest in this study, teaching behaviors account for unique variance above and beyond parenting behaviors: 12.23% within-class in NA and 0.82% within-class and 24.14% between-class variance in PA.

CHAPTER IV

DISCUSSION

The study examined the associations between student perceptions of teaching behaviors and affect in a large school-based sample of upper elementary school students. It was expected that perceived organizational, socio-emotional, and negative teaching behaviors would be positively associated with NA, while instructional teaching behaviors would be negatively associated. Furthermore, it was expected that perceived organizational and negative teaching behaviors would be negatively associated with PA while instructional and socio-emotional teaching behaviors would be positively associated. It was also expected that these same associations would be significant even after controlling for perceived parenting behaviors. Table 6 summarizes how the findings relate to the predictions. Several findings stand out, some confirming hypotheses based on previous observations and some novel.

Table 6.

Hypothesis Results Summarized of Teaching and Parenting and Teaching Behaviors Models

	Teaching Behavior Model			**Parenting and Teaching Behavior Model**		
	Direction of Parameter Estimate	Significant (Yes/No)	Consistent with Hypothesis (Yes/No)	Direction of Parameter Estimate	Significant (Yes/No)	Consistent with Hypothesis (Yes/No)
Negative Affect						
TBQIB	Negative	Yes	Yes	Negative	Yes	Yes
TBQNTB	Positive	Yes	Yes	Positive	Yes	Yes
TBQSEB	Positive	Yes	Yes	Positive	Yes	Yes
TBQOB	Negative	No	No	Negative	No	No
Positive Affect						
TBQIB	Positive	Yes	Yes	Positive	No	No
TBQNTB	Positive	No	No	Positive	No	No
TBQSEB	Positive	Yes	Yes	Positive	No	No
TBQOB	Positive	No	No	Positive	No	No

Note. $N = 767$ for all variables. TBQIB = Teaching Behavior Questionnaire, Instructional

Behavior; TBQNTB = Teaching Behavior Questionnaire, Negative Teaching Behavior; TBQSEB = Teaching Behavior Questionnaire, Socio-Emotional Behavior; TBQOB = Teaching Behavior Questionnaire, Organizational Behavior.

Teaching Behaviors and Children's Affect

As predicted, negative teaching behaviors were positively associated with NA in this sample. This means that when students perceive their teacher as exhibiting unpleasant or counter-productive teaching behaviors, they are more likely to report high NA. This finding was consistent with previous high school samples, demonstrating that associations may span across the school years (Pössel, Rudasill, Adelson et al., 2013). Contrary with the tripartite model of emotion (Clark & Watson, 1991) and previous findings in a high school sample (Pössel, Rudasill, Adelson et al., 2013) the association between negative teaching behavior and PA was not statistically significant in our sample. When interpreting the pattern of findings across the school years regarding negative teaching behaviors, there are many plausible explanations. Negative teaching behaviors were associated with NA in high school and elementary school, so it is unlikely that these associations weaken in younger students. The null associations with depressive symptoms in middle school students could be hiding an association with NA that went undetected when measuring depression as a whole construct (Pittard et al., in press). Possibly, the association with lower PA is only significant in high school, and does weaken with younger samples. It could be that there is a lack of association with low PA in middle school students, similar to elementary students. If this were true, the lack of association with low PA in middle school prevented an association with depressive symptoms. Clearly, further testing of the specific components of the tripartite model of emotion (Clark & Watson, 1991) in middle school is needed, to clarify these patterns across the school years. However, the current findings indicate that negative teaching behaviors can be linked with negative affect in at least high school and elementary

students. Though it may not reach levels equivalent to depression in elementary students due to the lack of association with low PA, these findings contribute to a consistent pattern that there is a significant relationship between teachers' behaviors perceived as negative, and their students' affect. This study also found that instructional teaching behavior was negatively associated with NA and positively associated with PA, consistent with predictions. When students perceive that their teacher is using behaviors such as staying on task, using examples they understand and having fair rules for classroom behavior, they are more likely to report high PA and low NA. The negative association with NA is consistent with a previous high school sample, although the same study found no association with PA (Pössel et al., 2013). Additionally, previous studies found no association with depression in high school and a negative association with depression in middle school (Pittard et al., in press). This pattern seems to expand upon the idea that the associations with instructional teaching behavior and affect may strengthen in younger students. Perhaps, students in elementary school benefit more emotionally from positive instructional teaching behaviors than their high school counterparts. High quality instructional support has been linked to academic outcomes such as closing the achievement gap in high-risk and low-risk elementary school children (Hamre & Pianta, 2005). The current findings suggest that in addition to academic benefits, (positive) instructional teaching behaviors are also linked to emotional well-being in elementary students.

Another set of findings consistent with the hypotheses was the positive association between socio-emotional teaching behavior with both PA and NA. These findings are consistent with previous findings, where socio-emotional teaching behaviors

were positively associated with PA and NA in public high school students (Pössel, Rudasill, Adelson et al., 2013). A plausible explanation for this finding can be drawn from the response styles theory of depression. Response styles theory posits two main styles of responding to depressive mood: rumination and distraction (Nolen-Hoeksema, 1987; Nolen-Hoeksema, 2000). Rumination is defined as a copying style that includes thoughts that focus one's attention to their own depressive symptoms, whereas distraction refers to the deviation of attention away from depressed mood and onto neutral or pleasant thoughts and actions. Rumination has been positively associated with depressive and anxious symptoms, compared to distraction in adult, children and adolescent samples (Nolen-Hoeksema, 2000; Robinson & Alloy, 2003; Roelofs et al., 2009). Possibly, students engaging in conversation about their own problems with their teachers serves much like a rumination response to depression. Students experiencing high levels of NA could be focused on their NA, and therefore more likely to seek support and warmth from teachers (socio-emotional teaching behaviors). Thus, a positive association between socio-emotional teaching behaviors and NA would be expected.

The null findings regarding organizational teaching behavior with both NA and PA are not consistent with the study's hypotheses. They also depart from previous findings on this teaching behavior type and its associations with academic and psychosocial outcomes (Curby, Rudasill, Edwards, & Perez-Edgar, 2011; Hamre & Pianta, 2005; Humensky et al., 2010; Pittard et al., in press; Pössel, Rudasill, Adelson et al., 2013; Roeser, Eccles, & Sameroff, 2000; Rubie-Davies, 2007). Previous studies have found higher levels of organizational behavior associated with lower levels of NA in high school students (Pössel, Rudasill, Adelson et al., 2013). However, a previous study

found it was not associated with NA in a Catholic high school sample and positively associated with depressive symptoms in middle school (Pittard et al., in press). This inconsistent pattern of findings is perhaps the most perplexing of the teaching behavior and affect associations. Organizational teaching behaviors are those used to minimize disruptions in the classroom (e.g. 'my teacher makes sure I understand the classroom rules, corrects me when I misbehave, explains to me why my behavior is wrong). Internal consistency for this subscale was poor, at $\alpha = .57$. The items used to measure organizational behavior may not be accurately measuring this construct in this population, thus reducing the ability to detect significant associations. The relationship between organizational teaching behavior and affect should continue to be explored across grades in order to make more clear interpretations.

Teaching Behaviors and Children's Affect, After Controlling for Parenting

After parenting behaviors were controlled for, some associations between teaching behaviors and student's affect remained significant while others did not. In particular, all associations between teaching behaviors (instructional, socio-emotional, negative) and NA that were significant without controlling for parenting behavior remained significant after controlling for parenting behavior. Additionally, the strengths of associations between teaching behaviors and NA remains largely unchanged by adding parenting behavior Further, teaching behaviors do account for unique variances in NA, even above and beyond parenting behaviors. This pattern of association demonstrates that teachers and parents are both important and independent in impacting NA in elementary students. However, that also means that they cannot compensate for each other in case one group of adults has a negative impact on NA in elementary students. In

other words, students perceiving teaching behaviors as negative will experience high NA, regardless of the parenting behaviors that are occurring in their homes.

After controlling for perceived parenting behaviors, there were no significant associations between teaching behaviors and PA in this elementary school sample left. The two associations that were found with PA (instructional and socio-emotional behaviors) were eliminated after parenting behaviors were entered into the model. A factor contributing to the lack of associations with teaching behaviors and PA after controlling for parenting may have been the limited power at the level-2 unit of analyses. Perhaps with more classrooms, PA associations would reach significance. Similarly to NA, teaching behaviors do account for unique between and within classroom variance above and beyond parenting behaviors. Thus, while more research into this is needed, it seems that teachers and parents explain unique variances in PA, and cannot compensate for each other's behaviors.

Overall, teaching behaviors do help explain variance in both NA and PA for elementary school students. Unique variance in affect is explained both within and between classrooms by teaching behaviors. Significant variance between classes is explained for NA (56.31%) and PA (31.26%) by teaching behaviors alone. Interesting, teaching behaviors also help explain variance within class for NA (14.16%) and PA (4.58%), when students are rating the same teachers. This finding suggests that even when the teaching behaviors are held constant, students' perceptions of these behaviors do vary widely and influence their affect.

This study also helps provide incremental validity for the TBQ. Specifically, teaching behaviors helps increase the predictive ability of NA and PA above and beyond

parenting behaviors. For NA, the TBQ explains an additional 12.23% within-class variance above and beyond parenting. For PA, 0.82% of within-class variance is explained by teaching behaviors, above and beyond parenting. Overall, the patterns in proportion of variance explained in NA and PA by teaching behavior remain unclear and warrant further investigation in replication studies. However, these findings do support continued use of the TBQ in helping predict affect in students, above and beyond the APQ.

The findings to the influence of parenting behavior on the associations between teaching behaviors and PA and NA in elementary students have important implications from a bioecological and intervention perspective. Specifically, they seem to call for an inclusion of teacher level interventions when addressing children's emotional well-being. Further exploration of these associations are necessary, but these preliminary findings imply that parenting behaviors may have such a large influence on PA in youth that teaching behaviors do not add either increases or decreases to a child already experiencing PA. However, when a child has high NA, their teachers can contribute to increases or decreases above and beyond parents' behaviors. Future research should consider dismantling the associations between PA and specific parenting and teaching behaviors, to explore underlying interactions that may exist. Additionally, future research may look to include peer relationships in models predicting affect in upper elementary students. Several studies point to low acceptance by peers (peer-rejection) as predictive of depressive symptoms in youth (Little & Garber, 2005; Nolan, Flynn, & Garber, 2003; Prinstein & Aikins, 2004), thus from a bioecological perspective peer

behaviors should be considered just as teaching and parenting behaviors are in the microsystem-level influences on positive and negative affect.

Limitations

A potential limitation of this study is its cross-sectional design. The design limits the conclusions about the directionality of the associations between affect and teaching behaviors that can be drawn. Future research should consider replicating the study with multiple time points in a longitudinal design. Additionally, the self-report method of data collection could be seen as a limitation of the current design. Student-rating of teaching behaviors could result in student bias that is less objective than classroom observations. However, observational studies are problematic in that they are costly and time intensive (Douglas, 2009). Further, classroom observations also typically measure quantity, not quality of behaviors, which could vary widely within teacher (Pianta & Hamre, 2009). Additionally, when predicting student well-being, teaching behaviors may be most meaningful when recorded as students perceive them (Eccles et al., 1993; Wubbels & Levy, 1991). Moreover, a previous study comparing the two methods found that student-report explained more variance of students' well-being than classroom observations (Study 2; Pössel, Rudasill, Adelson et al., 2013). These findings could indicate that it is the students' perception of teaching behaviors, whether or not they are accurate, that matters most when it comes to the effect on student variables.

It is notable that there may be some limitations regarding the generalizability of these findings due to sampling biases. All students in third-fifth grades took home parent consent forms explaining the study, but our sample was limited to only the students' whose parents agreed to let their child participate. The process of obtaining parental

consent in this way assumes that parents are involved and attuned to the child's academic needs and what is coming home with them from the school. Parental involvement in homework has been linked to improved academic performance among elementary school children (Patall, Cooper, & Robinson, 2008). Thus, by our sample potentially excluding children that are receiving less parental involvement, this sample may be biased towards children that are performing higher academically, which is associated with higher psychosocial outcomes (Baker, 2006; Hamre & Pianta, 2005). Additionally, the consent form described that students would be asked about "parenting behaviors". Although there is no evidence to support the claim, it is reasonable to expect that some parents would be unwilling to let their child participate because they did not want potentially negative parenting behaviors reported (e.g. 'The punishment your parent(s) give depends on their mood', 'Your parent(s) yell or scream at you when you have done something wrong). As a result, our sample may have contained children with fewer negative parenting behaviors reported. These factors may have all contributed in limiting the variance in parenting behaviors in our sample, thus impacting the findings of the associations between teaching behaviors and children's affect after controlling for parenting behavior.

There are also limitations with the measure used for collecting student-ratings of teaching behaviors. The internal consistencies of all of the TBQ subscales were not adequate. Specifically, negative teaching behavior ($\alpha = .67$) and organizational behavior ($\alpha = .57$) were both below the commonly recommended cutoff score of .70 (Nunnally, 1978). These scales may not be accurately measuring the intended constructs in elementary school students, and thus limit the ability to detect associations. Finally, the

goodness of fit indices TLI and CFI for the TBQ demonstrated that the four factor model does not fit the data well. However, Hu and Bentler (1998) suggest that goodness of fit indices are better at distinguishing between models that have different degrees of misspecification than providing absolute guidelines about the acceptability of a particular model. Thus, Marsh, Hau, and Wen's (2004) recommended using the indices to compare the fit of models rather than as absolute cutoff values and the four factor model was the best fitting of the models, when compared to a one and three factor model. Nevertheless, future research should further explore alternative factor structures in elementary school students.

Implications for Practice

The current findings do have implications for teacher training and the prevention of depression and NA in children. Though some associations need to be further parsed out across the school years, there are certainly associations between teaching behavior and children's affect from elementary to high school. This study, and its middle and high school counterparts, highlight for teachers that their instructional behavior does have impacts on the emotional well-being of their students. This is consistent with the existing literature identifying positive teacher-student relationships with positive student outcomes, such as behavioral and academic success (Baker, 2006; Hamre & Pianta, 2005). Hamre and Pianta found that children that form close and positive relationships with teachers enjoy school more, get along better with peers, and are at decreased risk for school failure (2005). The current study provides observable and measurable behaviors that teachers can be aware of when forging these positive relationships with their students.

Mental health professionals working with depressed youth should be encouraged to assess and intervene not only at the parent-level but teacher-level, when warranted. Teacher training could highlight specifically instructional and negative teaching behaviors that were associated with depression and NA across multiple samples (Pittard et al., in press; Pössel, Rudasill, Adelson et al., 2013), to attempt to target and change the frequency of these teaching behaviors. It is also necessary to consider the importance of student perceptions of the teaching behaviors when developing training programs. Teacher training should help teachers understand how their own behaviors can be perceived differently across students. Behaviors perceived as supportive and warm by one student may be perceived as unpleasant and counter-productive by another. Thus, teachers should be aware that building relationships with students individually will shape the way their behaviors are perceived.

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CURRICULUM VITAE

Allison Denise Barnard
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EDUCATION

August, 2015 (expected) — **University of Louisville**, Louisville, KY
Ph.D., Counseling Psychology
Dissertation: Exploring the Associations Between Teaching Behaviors and Affect in Upper Elementary Students Before and After Controlling for Parenting Behaviors
Dissertation chairs: Dr. Patrick Pössel and Dr. Jill Adelson
Status: Defended, July 2015

August 2007 — **Eastern Kentucky University,** Richmond, KY
Masters of Science, Clinical Psychology, May 2009
Thesis: *Regional Differences in Perceptions Towards Mental Health Services.*
Advisor: Dr. Don Beal

May, 2007 — **Transylvania University,** Lexington, KY
Bachelor of Arts, Psychology, May 2007
Cum Laude, Dean's List, Psi Chi

April, 2010 — **Licensed Psychological Associate**
Passed the EPPP at the doctoral-level

CLINICAL EXPERIENCES

Southern Arizona Psychology Internship Center 7/2014-7/2015
Tucson, AZ
Agency Type: Community Mental Health Center
APA-Accredited Psychology Internship
Supervisors: Dr. Edward Lovejoy, Dr. Pat Penn

- Providing evidence-based psychotherapy interventions for children, adolescents, families, and groups.
- Administering psychological batteries for children and adults.
- Engaging in program development and evaluation of children services.
- Supervising doctoral-level practicum student from University of Arizona.
- Training clinical staff on empirically based interventions.

- Attending and co-facilitating group supervision and family systems seminars.
- Training case management staff on assessment, diagnostic and family systems.

University of Louisville Autism Center, 1/2014-5/2015
University of Louisville Department of Pediatrics, Louisville, KY
Agency Type: HSC Outpatient Clinic
Supervisor: Dr. Grace Kuravackel

- Provided empirically-based psychotherapy for children and adults on the Autism
  Spectrum dealing with comorbid diagnoses.
- Co-facilitated a social skills group for elementary children with Autism Spectrum
  Disorders.
- Completed psychological evaluations referred for diagnostic clarifications.
- Gained knowledge and exposure to behavioral intervention strategies for ASD individuals.

Weisskopf Child Evaluation Center, 5/2013-12/2013
University of Louisville Department of Pediatrics, Louisville, KY
Agency Type: HSC Outpatient Clinic
Supervisor: Dr. Eva Markham

- Administered psychological and intellectual testing batteries to children, adolescents and adults as part of a multidisciplinary team.
- An emphasis of the clinic is developmental delay evaluations, therefore I experienced a high volume of developmental delay and autism spectrum disorder evaluation referrals.
- Provided mental status exams for patients receiving genetic counseling.
- Participated in multidisciplinary feeding evaluations and parental feedback for picky and resistant eaters.
- Co-facilitated Bayley Cognitive scales of development as part of the multidisciplinary 0-3 "baby" evaluation team.
- Developed recommendations for children with developmental, learning and behavioral disorders.
- Provided psychotherapy for children with specific anxiety, Tourette's and feeding disorders.

The Brook Hospital, KMI, Louisville, KY 8/2012-4/2013
Agency Type: Psychiatric Hospital
Supervisor: Dr. Stelios Stylianou

- Delivered empirically-based therapeutic services to acute and residential adolescent inpatient clients and their families.

- Led adolescent psychotherapy groups emphasizing Dialectical Behavioral Therapy for residential females and the Seven Challenges for substance abusing adolescents.
- Conducted intake psychosocial assessments and gathered collateral information from family members.
- Connected clients with the appropriate community resources upon discharge.

Veteran's Affairs Hospital, Louisville, KY 5/2012-8/2012
Agency Type: Hospital
Supervisor: Dr. Jeanne Bennett

- Administered, scored and interpreted full psychological battery assessments for veterans.
- Became familiar with and utilized common neuropsychological assessments.
- Assessed patients presenting wide range of memory and psychological problems including PTSD and Dissociative Fugue.

University of Louisville Counseling Center, Louisville, KY 1/2012-5/2012
Agency Type: University Counseling Center
Supervisor: Dr. Juan Pablo Kalawski

- Administered, scored and interpreted Learning Disorder and Attention Deficit/Hyperactivity Disorder full battery assessments for college students.
- Made individualized recommendations for student accommodations to increase student success.
- Provided assessment feedback to clients including appropriate community resources and referrals.

Child and Family Wellness Center 6/2009-7/2011
Bluegrass Mental Health-Mental Retardation Board, Lexington, KY
Agency Type: Community Mental Health Center
Licensed Psychological Associate
Supervisor: Dr. Patricia E. Burke

- Provided evidence-based psychotherapy interventions for children, adolescents, families, and groups.
- Administered psychological assessments and mental health evaluations.
- Responsible for advising the director on purchasing assessment products, as well as educating non-psychology colleagues how to interpret test results
- Managed caseload of approximately 100, many of whom were Severely Emotionally Disabled (SED) children.
- Co-led social skills summer training groups for children ages 6-10.
- Collaborated on cases with relevant community agencies (public school systems, Department for Community Based Services, Court Designated Workers, etc.) to provide appropriate treatments and offer professional recommendations.
- Trained beginning-level practicum students on intake and basic therapy skills.

- Managed after-hours crisis calls from distressed clients on an 'as needed' basis
- Contracted to be the sole mental and behavioral health specialist in an integrated care model at the Commission for Children with Special Health Care Needs' Medical Home Clinic. Spent one day per week on-site providing treatment to medically fragile children and children in state's custody.

Pathways Inc., Owingsville, KY 1/2009-5/2009
Agency Type: Community Mental Health Center
Supervisor: Dr. Don Beal

- Served as a mental health outpatient therapist treating adolescents, children, and adults in rural Kentucky.
- Contracted with Bath County school system to provide school-based psychotherapy services.
- Collaborated with multidisciplinary team developing treatment plans and managing independent caseload of approximately 20 clients.
- Led and facilitated daily Therapeutic Rehabilitation Program for adults with Severe Mental Illness (SMI).

Child Guidance Clinic,
Bluegrass Mental Health-Mental Retardation Board, Lexington, KY
Agency Type: Community Mental Health Center
Supervisor: Dr. Autum McCane

- Assisted with intakes, assessments and individual psychotherapy with children, adolescents and their families.
- Observed children at Community Action Council daycares to identify and refer those in need of mental health services.
- Worked with teachers at Community Action Council to provide behavioral interventions.
- Co-facilitated weekly adolescent substance abuse group using Seven Challenges curriculum.

Eastern Kentucky University Psychology Clinic, Richmond, KY 11/2007-12/2008
Agency Type: Graduate Training Clinic
Supervisor: Dr. Myra Beth Bundy & Dr. Theresa Botts

- Utilized behavioral and cognitive-behavioral techniques with children and adolescents in individual and family psychotherapy. Assisted in structured group therapy for children with Autism Spectrum Disorders and social skills deficits. Managed caseload of approximately four weekly clients.

Eastern Kentucky University Office of Services for Individuals with Disabilities, Richmond, KY 8/2007-8/2008
Supervisor: Teresa Belluscio, M.S. & Dr. Theresa Botts

- Coached university students with cognitive disabilities both individually and in groups to teach time management, planning and study strategies as well as organizational skills.
- Advocated for students requiring special accommodations for courses and residential living.
- Wrote biannual reports to Vocational Rehabilitation counselors on student progress and achievements.

PSYCHOLOGICAL TESTS

Administered and interpreted alone or in batteries:

WAIS-IV	KID-SCID	Robert's Apperception Test
WPPSI-III	SCID-1	Conners
WISC-IV	SCID-2	CBCL
WASI-II	MMPI-2	TRF
SB-V	MMPI-A	BASC
K-BIT-2	Vineland	PAI
MASC	WJ-III	NAB Attention Module
RCMAS-2	IVA-AE	CARES
Piers-Harris	TAT	TOMM
D-KEFS	DP-3	Word Memory Test
WIAT	RCFT	Beery VMI 6th Ed
CVLT-II	CDI	SIB-R
WMS	BDI/BAI	ADOS
Bayley	ABAS	CARS
TONI-4	TEMAS	GADS
RBANS	PPVT	Rotter's Incomplete Sentence
GARS	MCMI-III	

PRESENTATIONS

Barnard, A. (April 2015). *An Introduction to Stuctural Family Therapy*.
Workshop presented to clinical colleagues in community mental health setting. Tucson, AZ.

Barnard, A. (November 2014). *An Introduction to Parent-Child Interaction Therapy*.
Workshop presented to clinical colleagues in community mental health setting. Tucson, AZ.

Barnard, A. (March 2014**).** *Examining the Sequential Order of Beck's Model in Adolescents.*
Poster at the Southeastern Psychological Association Conference, Nashville, TN.

Barnard, A. (March 2013). *Examining the Sequential Order of Beck's Model in Adolescents.* Paper presented at the Kentucky Psychological Association Academic Conference, Louisville, KY

Barnard, A. (July 2012) *Preparing for the EPPP.* Workshop presented to the Doctoral Student Organization, Louisville, KY.

Barnard, A. (October 2009). *Basics on Psychological Testing and Results.* Workshop presented to clinical colleagues in community mental health setting. Lexington, KY.

PUBLICATIONS

Barnard, A. D., & Pössel, P. (submitted). Comparing Different Sequential Mediational Interpretations of Beck's Depression Model in Adolescents

Pössel, P. & **Barnard, A. D**. (in press). Stress-Inoculation Training (SIT) per Meichenbaum. In E. Levine, R. Flanagan, & K. Allen (Eds.), *A Practical Guide to Cognitive Behavioral Therapy in the Schools* (p.XX-XX).

Pössel, P., Winkeljohn Black, S., & **Barnard, A. D**. (submitted). Can the Hopelessness Model of Depression and the Response Style Theory be Integrated?

Visalli, K.M., Pössel, P, **Barnard, A.D**., Adelson, J.L. (in preparation). The Influence of Parenting Behavior on Positive and Negative Affect in Elementary Age Children. University of Louisville, KY.

Penn, P. E., Brooke, D., Brooks, A. J., Gallagher, S. M., **& Barnard, A. D.** (submitted).Co-occurring Conditions Counselors and Clients Compare 12-step and SMART Recovery® Mutual-help. La Frontera Arizona, Tucson, AZ.

RESEARCH EXPERIENCE

Doctoral Dissertation
Co-Chairs: Dr. Patrick Pössel & Dr. Jill Adelson
Title: Exploring the Relationship Between Teaching Behaviors and Affect in Upper Elementary Students

- Using the tripartite model of depression and anxiety and Bronfenbrenner's bioecological model of development, this study hopes to identify what teaching behaviors are related to positive and negative affect in upper elementary students. Data collection in regional elementary schools is completed with 777 participants.

Laboratory for school-based prevention of adolescent depression and promotion of academic achievement. 8/2011-7/2014

Advisors: Dr. Patrick Pössel and Dr. Jill Adelson

- Investigating the impact of teacher behaviors and evaluative feedback on adolescent mental health.
- Participated in school-based observational study of behaviors in teacher-student dyads across multiple classrooms in a local high school.
- Assisted in the validation of the Teacher Behavior Questionnaire instrument.

Master's Thesis 4/2009

Chair: Dr. Jonathan Gore

Title: Regional Differences in Perceptions Towards Mental Health Services.

- Collected and analyzed data from Appalachian and non-Appalachian Kentucky college students to detect difference in perceptions of mental health and mental health as related to cultural and regional differences.
- Explored the effect of social support, previous experience/exposure to mental health services, protestant work ethic and other variables on perceptions of mental health services.

Senior Research 1/2007-5/2007

Advisor: Dr. Melissa Fortner

Title: Emerging Adulthood and Parent-child Relationships

- Explored the existing literature on intergenerational ambivalence regarding parent-child relationships with the emerging adulthood stage of development.
- Developed instruments to measure levels of ambivalence and role confusion between college students and their parents.

RECEIVED GRANTS

1. Principal Investigator, "Exploring the Relationship Between Teaching Behaviors and Affect in Upper Elementary Students". University of Louisville, College of Education and Human Development Research and Faculty Development Grant, 3/2014-present. $949.56 direct costs.
2. Co-Writer, La Frontera Arizona and University of Arizona "PharmCamp" program. AMA Foundation Healthing Living Grant, 1/2015. $4594 direct costs.

ACADEMIC WORK

Ad-hoc Reviewer 7/2014

European Child & Adolescent Psychiatry

Instructor 7/2013-7/2014

Department of Education and Teacher Preparation

EDTP 107: Human Development and Learning

- Independently responsible for two sections of undergraduate teacher preparation courses.
- Taught course four times per week, developed syllabus and assignments, maintained weekly office hours, managed students' behavioral and academic problems.

Graduate Teaching Assistant Academy Participant 8/2013-1/2014
University of Louisville

- Recommended and selected among applicants to participate in year-long academy to enhance teaching skills.
- Topics in the academy including enhancing education with technology, creating a civil classroom culture, classroom assessment techniques, constructing a teaching philosophy and strategies for using rubrics.
- Opportunities for micro-teaching and receiving feedback from peers and faculty mentors are incorporated.

Graduate Teaching Assistant 7/2012-7/2013
Department of Educational and Counseling Psychology
ECPY 648: Intellectual Assessment

- Co-taught administration, scoring and interpretation of Wechsler assessments
- Scored video administrations, test protocols and reports for graduate students.

ECPY 540: Evaluation and Measurement

- Co-taught principles of measurement and statistics to graduate students; assisted students in homework and test preparation.

ECPY 619: Theories of Psychotherapy

- Assisted in graduate level course on foundations of psychotherapy theory with an emphasis on conceptualization.
- Created and graded all homework assignments.

Graduate Research Assistant 8/2011-7/2012
College of Education and Human Development
Dean's Office

- Assisted in collating course evaluations.
- Prepared data reports for annual Student Learning Outcomes.
- Researched academic programs and education policies as-needed.
- Gained competence in university operations, governance, compliance, institutional effectiveness and academic affairs.

COMMITTEES/ORGANIZATIONS

	Tucson Community
9/2014-present	Refugee Integrated Services Provider Network of Tucson
	Louisville Community
9/2013-6/2014	Pediatric Behavioral and Mental Health Alliance

Responsibilities: Advocate for children's mental health issues in Kentucky. Develop and plan annual Pediatric Behavioral Health Symposium. Raise awareness about Kentucky's

Medicaid Expansion program and the Affordable Care Act. Advocate and lobby for issues relevant to integrated care models of health for children.

College of Education and Human Development

8/2011-8/2012 Curriculum Committee

Responsibilities: Served as student representative to provide student perspective on course curriculum, programs of study and departmental structuring within the college.

Department of Educational and Counseling Psychology

8/2011-present Diversity Committee

Responsibilities: Reviewed and reflected on peer-reviewed articles regarding multicultural issues in the field of psychology. Explored personal cultural biases. Enhanced skills and awareness for working with diverse populations.

8/2011-present Doctoral Student Organization Member

Responsibilities: Attend monthly meetings and departmental research talks. Participate in program chair interviews and student applicant interviews. Provide faculty feedback on program issues including curriculum and structure. Helped re-develop comprehensive exam protocol for the program. Engage in community service and social activities.

4/2012-4/2013 Doctoral Student Organization Vice-President

Responsibilities: Actively engaged in coordinating program applicant interviews and providing faculty feedback. Contacted local mental health providers to advocate for students and create a list of psychological service providers willing to see students at a reduced rate. Coordinated social activities.

9/2011-4/2012 Doctoral Student Organization Cohort Representative

Responsibilities: Served on officer's cabinet as voice for first-year doctoral students. Provided first-year prospective and concerns on behalf of my cohort.

CONSULTATIONS

9/2014	Guest Presenter: *Trauma Reactions in School-Aged Children: How Can Child Protective Services Staff Respond?* Workshop presented to Child Protective Services employees of Tucson, Arizona.
6/2013	Guest Lecturer: Learning and Human Development graduate course at University of Louisville. Behavioral and Social-Learning Theories units.

10/2013	Guest Lecturer: Intellectual Assessment graduate course at University of Louisville. WISC-IV Administration and WISC-IV Scoring and Interpretation units.
9/2010 & 4/2011	Guest Lecturer: Introduction to Psychology undergraduate courses at Eastern Kentucky University. Biological Processes and Abnormal Psychology units.

PROFESSIONAL AFFILIATIONS

American Psychological Association, Student Affiliate
Kentucky Psychological Association, Member

KPA Convention 2012 Planning Committee
Helped identify, contact and introduce guest speakers and workshop presenters. Planned schedule of events; coordinated corporate sponsorships.

KPA Advocacy Committee
Invited member due to my known commitment and passion for advocacy and social justice. Developing committee goals, mission statements and principal concerns to address.

WORKSHOPS ATTENDED

9/2014	HIV & Stigma: An Informed Conversation, *presented by Travis Munnerlyn, MA,* Tucson, AZ.
9/2013	Pediatric Behavioral Health Symposium, *presented by University of Louisville Department of Pediatrics,* Louisville, KY
9/2013	"Tattered Teddies": A Workshop about Suicide in Children, *presented by the Centre for Suicide Prevention,* Louisville, KY
7/2013	A First Step in Understanding the Affordable Care Act and Its Potential Impact on the Health and Mental Health of Kentuckians, *presented by Regan Hunt, MPA & Sheila Schuster, PhD.*
11/2012	Working with LGBTQ Youth: Clinical Considerations, *presented by Dr. Stephanie Budge,* Louisville, KY
11/2012	Trans* 101: An interactive discussion of the basic concepts and terms regarding the transgender experience, *presented by Dr. Stephanie Budge,* Louisville, KY
9/2010	Infant and Toddler Behavioral Issues and Mental Health, *presented by Cross Country Education*, Lexington, KY
7/2010	Autism Spectrum Disorders: Early Identification, Diagnosis and Intervention, *presented by Drs. Lisa Ruble and Myra Beth Bundy*, Lexington, KY.
11/2009	Therapeutic Metaphor and Play Therapy: Implementation of Trauma Focused CBT, *presented by Dr. Pat Pernicano,* Lexington, KY

11/2009	School Violence and Primary Prevention, *presented by Drs. Allen Beane and Bobbie Burcham,* Lexington, KY
9/2009	Parent-Child Interaction Therapy for Community Mental Health Professionals, *presented by Christy Leaver, LCSW,* Lexington, KY
6/2009	TF-CBT Web: A web-based learning course for Trauma-Focused Cognitive-Behavioral Therapy, *produced by The National Child Traumatic Stress Network.*
11/2008	Adult and Child Victimization: Legal and Ethical Issues in working with Victims of Abuse, *presented by Dr. David Hanna*

REFERENCES

Dr. Patrick Pössel
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