# Evaluating K-12 Pre-Service Educators' Understanding of Internalizing Behaviors

By

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A Thesis Submitted in
Partial Fulfillment of the
Requirements for the Degree of

Education Specialist
School Psychology

At

The University of Wisconsin-Eau Claire

February, 2020

Graduate Studies

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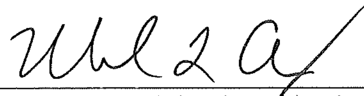

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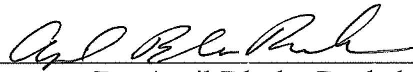

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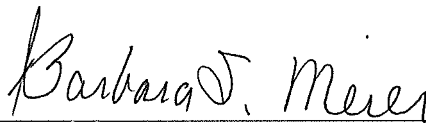

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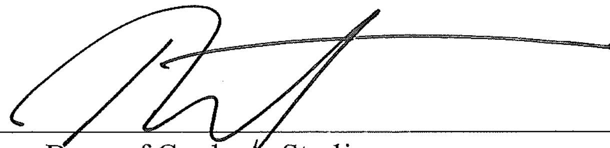

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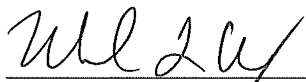
By
Oceana David-Weber
The University of Wisconsin-Eau Claire, 2020
Under the Supervision of Dr. Michael Axelrod

Children with internalizing disorders, specifically anxiety and depression, are at an increased risk for poor social and academic performance in school. Students spend a majority of their time at school, highlighting the need for educators to be knowledgeable about and properly trained in identifying and supporting children with mental health problems. The current study assessed pre-service educators' ability to identify internalizing and externalizing behaviors in children. In addition, the study examined differences in knowledge among groups of pre-service educators studying general education, special education, and communication sciences and disorders (i.e., speech language pathology) from a mid-sized public university in the Midwest. Pre-service educators completed an anonymous online survey that included 84 questions designed to measure their ability to distinguish between internalizing and externalizing behaviors in children. The typical educator correctly identified 72 of 84 symptoms as internalizing or externalizing. Pre-service educator year in school was positively associated with percent correct, $r$ =.19, 95% CI [.03, .34], $p$ =.023. Pre-service educator differences in major, experience with different age groups of children, and previous exposure to internalizing or externalizing symptoms through pre-service training did not predict percent correct. In general, these results suggest pre-service educators from this university distinguish well between internalizing and externalizing symptoms.



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# Chapter I

## Introduction

From both an educational and public health perspective, the identification and treatment of children with mental health concerns are critical. However, a majority of children who need mental health intervention fail to receive services (DeSocio & Hootman, 2004). For those children who do receive services, 70% report that school is the primary source of treatment (DeSocio & Hootman, 2004). Recognition of student mental health functioning in schools may promote learning and prevent the onset of negative consequences related to unidentified mental health issues (Levitt, 2007). Research suggests that positive mental health is associated with academic success and that mental health problems may significantly impede learning and academic achievement (Levitt, 2007). Early identification of mental health problems in students is an important strategy for improving both educational and life outcomes.

### Definitions and Developmental Courses of Anxiety and Depression

Anxiety and depression are among the most common mental health disorders in childhood and adolescence. Approximately one-third of all 13 to 18-year-olds will have an anxiety disorder at some point in their lifetime (The National Institute of Mental Health, 2017). While occasional anxiety is a natural part of life and may actually be beneficial under certain circumstances (e.g., alert us to danger, prepare us for the unexpected; The National Institute of Mental Health, 2018), anxiety disorders involve excessive fear and worry that differ from typical feelings of anxiousness and often worsen over time if not treated. Anxiety disorders typically cause children to avoid

certain situations that trigger or worsen their anxiety and thus may interfere with personal relationships and school performance. There are several types of anxiety disorders including generalized anxiety disorder, panic disorder, phobia-related disorders, agoraphobia, social anxiety disorder, and separation anxiety disorder (The National Institute of Mental Health, 2018).

Depression is a serious mood disorder that affects an individual's behavior, cognition, and social/emotional functioning (The National Institute of Mental Health, 2019). Approximately 13% percent of 12 to 17-year-olds experience depression at some point during a one-year period (The National Institute of Mental Health, 2015). Symptoms of Major Depressive Disorder (MDD) can vary from mild to severe and may include feeling sad or having a depressed mood, loss of interest or pleasure in activities you previously enjoyed, changes in appetite, trouble sleeping, loss of energy, slowed movements and speech, feelings of worthlessness, difficulty concentrating and making decisions, and thoughts of suicide (American Psychiatric Association, 2013). In order to be diagnosed with depression, symptoms must be present for at least two weeks (The National Institute of Mental Health, 2019). Persistent Depressive Disorder (PDD) is similar to MDD, but it is a more chronic condition characterized by a period of depressed or irritable mood that is present for at least half the time for at least 1 year and is accompanied by other depressive symptoms (Beauchaine & Hinshaw, 2013). Children and adolescents with depression often exhibit significant impairments in family, school, and social functioning that may continue after symptoms of depression subside (Beauchaine & Hinshaw, 2013).

Depression and anxiety exist on a continuum; therefore, it is important to also recognize that subclinical presentations may exist. Specifically, a person with subclinical anxiety or depression displays symptoms that are often impairing but do not meet the full criteria for diagnosis of either disorder (Singhal, Manjula, & Sagar, 2016). For example, a person may report experiencing depressed mood and loss of interest for a period of at least two weeks. However, they will not meet the criteria for clinical depression if the Diagnostic and Statistical Manual of Mental Disorders -5th Edition's (DSM-5) diagnostic cut point of 5 or more symptoms are not met and there is no report of significant distress or impairment in functioning (Fergusson et al., 2005). Despite this DSM-5 diagnostic cut point, research suggests that subclinical levels are associated with considerable impairment as well as increased risk for a future diagnosis of depression and anxiety (Fergusson et al., 2005). Also, evidence suggests that students with increased levels of subclinical symptoms have a higher risk of developing other mental health problems in the future (Fergusson et al., 2005). Consequently, early identification of children and adolescents with both clinical and subclinical levels of anxiety or depression is vital and may curtail the development of worsening symptoms (Singhal, Manjula, & Sagar, 2016).

The symptoms of anxiety and depression among children vary across developmental periods and manifest in a variety of patterns. Additionally, symptoms of anxiety in children may present differently in children and adolescents when compared to adults. Children with depression may show signs of irritability, acting out behavior, disinterest in activities, and somatic complaints (Cunningham & Suldo, 2014). Common symptoms among children with anxiety include refusing to go to school, excessive worry, having few friends outside of the family, crying, tantrums, and avoidance of social

situations. Symptoms of anxiety and depression are persistent across time (American Academy of Child and Adolescent Psychiatry, 2013; Cunningham & Suldo, 2014).

Research suggests children are not as aware of their emotions and cognitions as adults are, and may have difficulty communicating distressing internal experiences to adults (Beesdo-Baum & Knappe, 2012). Younger children may lack the ability to describe or have difficulty communicating their thoughts and feelings due to developmental factors associated with cognition, language skills, and understanding of emotions (Beesdo & Knappe, 2009). Therefore, it may be difficult to identify childhood anxiety and depression simply through a verbal assessment with a child (Beesdo & Knapp, 2009).

**Internalizing and Externalizing Symptoms**

In general, childhood and adolescent problem behaviors can be divided into internalizing and externalizing symptoms (APA, 2018). Internalizing behaviors encompass anxiety, depression, social withdrawal, and somatic complaints. Internalizing behaviors can be described as problems that more centrally affect the child's internal psychological environment rather than the external world. As a result, internalizing behaviors are not always easy to notice or observe in others. Conversely, externalizing behaviors are a grouping of behavior problems that are manifested in children's outward behavior and are easily observable by others. Symptoms of externalizing problems may include acting out, antisocial behavior, hostility, delinquency, inattention, hyperactivity, impulsivity, and aggression (APA, 2018).

Children and adolescents may display comorbid internalizing and externalizing behaviors (APA, 2018). Conceptually, internalizing and externalizing symptoms represent very distinct behaviors. However, many studies have found them to be positively correlated with each other in children. For example, the presence of separation anxiety disorder (SAD) in boys might actually exacerbate disruptive behavior in the classroom (Willner, Gatzke-Kopp, & Bray, 2016). Similarly, results from a study on Parent Management Training suggested there was a significant reduction in both externalizing and internalizing behaviors after a group of children received treatment for externalizing problems (Chase & Eyberg, 2007). Results from these studies indicate a strong bidirectional relationship between internalizing and externalizing problems in children (Chase & Eyberg, 2007). Therefore, development, presentation, and classification of internalizing and externalizing behaviors may not be entirely clear.

Children with internalizing disorders are often under-identified in schools (Cunningham & Suldo, 2014). These children are often overlooked and may not present with obvious symptoms because they typically do not disrupt class, violate school rules, or display obvious emotional or behavioral symptoms. As a result, it is less likely that children with internalizing disorders will be identified and then receive treatment compared to children who display outwardly disruptive behaviors such as hyperactivity, aggression, and defiance. (Cunningham & Suldo, 2014). This problem extends to the treatment of internalizing and externalizing disorders. Children with internalizing disorders are considerably unlikely to receive treatment when compared to the higher rates of mental health services provided to children with externalizing behavior disorders (Cunningham & Suldo, 2014).

Identifying internalizing disorders in school settings may be difficult. For example, researchers examined the accuracy of teacher nominations in identifying elementary school children who self-reported elevated levels of depression and/or anxiety (Cunningham & Suldo, 2014). Participants in this study included 238 fourth and fifth-grade students in a large, urban school district and 26 classroom teachers. Results from the study indicated that teachers identified 50% of students who reported at-risk levels of anxiety and 47% of students who reported at-risk levels of depression. Teachers falsely identified 16.2% of students with depression and 17.5% with anxiety. Findings from this study suggested that teachers were able to identify approximately half of their students who experienced at-risk levels of anxiety and depression, suggesting a sizeable proportion of students with internalizing symptoms might go unnoticed in school settings (Cunningham & Suldo, 2014).

**Impact on School Performance and Academics**

Children with mental health issues are at an increased risk for poor school performance. DeSocio and Hootman (2004) reviewed the literature examining the relationship between children's mental health and performance in school, and found that children with depression and anxiety attract less attention from their teachers and school staff. However, internalizing symptoms were associated with poor school performance. Symptoms common to children with internalizing disorders included poor concentration, irritability, low self-esteem, sleepiness during the day due to insomnia, and distractibility (DeSocio & Hootman, 2004). Research on a nationally representative sample of youth found that school problems were associated with every health risk included in their study (e.g., cigarette smoking, alcohol use, weapon-related violence, suicide attempts, and

unprotected sexual activity; Boyce et al., 2002). These results highlight the importance of early identification and treatment of childhood mental health problems in order to alter the trajectory of health risks associated with of school problems.

In a related study, researchers investigated the relationship between depression and school performance (Fröjd et al., 2008). A large sample of 7th to 9th grade students completed questionnaires anonymously in their classrooms as part of a larger study on adolescent mental health. Depression was measured using the R-Beck Depression Inventory. Results indicated that self-reported depression was related to poor academic achievement and performance. Specifically, lower student GPAs were associated with higher likelihood of self-reported depression. The researchers hypothesized that depression could negatively affect school achievement. Alternatively, they suggested that depressive symptoms could be triggered by school failure or poor performance in school. Depression was also correlated with difficulties in social relationships, concentration, and school performance (Fröjd et al., 2008).

Other research has investigated the relationship between anxiety and school performance problems. For example, one study investigated school functioning of students with varying anxiety disorders (i.e., separation anxiety disorder, social phobia, generalized anxiety disorder) using parent and teacher report (Mychailyszyn, Mendez, & Kendall, 2010). Children with anxiety disorders were rated as less popular, shyer, and more socially withdrawn than typically developing peers. Also, results revealed that children with anxiety disorders exhibited significantly greater difficulties related to school functioning compared to children without anxiety disorders. Children without anxiety disorders were rated as doing better in school and being happier than children

without an anxiety disorder (Mychailyszyn, Mendez, & Kendall, 2010). Taken together, these varied links imply that internalizing disorders, such as anxiety and depression, likely impact school performance in profound ways.

**Role of the School**

Schools are central to the identification of childhood mental health disorders. Since children spend the majority of each day at school, educators must play a role in the mental health care of children (Koller & Bertel, 2006). Scholars have offered several reasons why schools are an ideal outlet for children to receive mental health services (e.g., Walter, Gouze, & Lim, 2006). First, schools are easily accessible to children and their families. When services are located within the school setting, children and families may be more likely to follow through with and receive services (Levitt et al., 2007). Second, compulsory attendance might contribute to treatment being more available, frequent, and consistent. Schools offer the opportunity to reach a large number of children with unidentified mental health needs. Finally, schools are able to provide mental health services and interventions while improving students' academic achievement and removing barriers to learning. Many mental health interventions can be employed by teachers within the classroom setting such as using positive classroom management strategies, social-emotional learning curricula, and individualized interventions (Franklin et al., 2012). Examples of individualized interventions include behavior contracts, counseling, and teaching coping skills. Within this setting, school-based mental health professionals can also work closely and collaboratively with teachers to implement emotional and behavioral interventions within the classroom (Franklin et al., 2012).

Unfortunately, the literature suggests that teachers may overlook students' internalizing symptoms. In a study examining teachers' understanding of mental health and training regarding mental health, researchers found that teachers easily notice externalizing behaviors in students (e.g., inattention, aggression, oppositional behavior; Rothi, Leavey & Best, 2008). Not surprising, these researchers found that teachers noticed behaviors that were most disruptive to the learning environment compared to students with mental health conditions such as anxiety or depression. In another study, teachers completed a survey with vignettes describing both children with internalizing disorders and children with externalizing disorders (Loades & Mastroyannopoulou, 2010). Following each vignette, teachers were asked questions about whether or not they perceived there to be a problem, how serious they perceived the problem to be, what their intentions to act on the problem would be, and how concerned they would be about the child described. Results indicated that teachers were able to recognize the severity of both internalizing and externalizing behaviors presented in the vignettes. However, teacher ratings of problem severity were significantly greater for the vignette of the child presented with clinical symptoms of a behavioral disorder when compared to ratings of the vignette of the child with clinical symptoms of an emotional disorder (Loades & Mastroyannopoulou, 2010). Consistent with prior research, results suggested that teacher recognition of symptoms and ratings of problem severity tend to be higher for children with externalizing behaviors when compared to children with internalizing behaviors (Loades & Mastroyannopoulou, 2010).

Teachers and students spend a significant amount of time together in the classroom, providing ample opportunity for teachers to identify students experiencing

mental health problems. However, research suggests that teachers have limited knowledge of children's mental health (Frauenholtz, Mendenhall, & Moon, 2017). In order to understand the level of knowledge teachers have regarding mental health issues in children and their ability to help children experiencing these problems, researchers conducted focus groups with teachers (Frauenholtz et al., 2017). The questions presented were open-ended and related to (a) previous experience working with children experiencing mental health problems, (b) training in mental health, (c) perception of their own knowledge regarding mental health, and (d) confidence in their knowledge to help identify students struggling with mental health problems. Teachers reported having limited knowledge about mental health problems in children, inadequate training, and a lack of confidence in their ability to help identify and support students with mental health problems (Frauenholtz et al., 2017). After interviewing teachers regarding their roles in educating children with mental health problems, researchers found that teachers felt unprepared to work with this group of children (Rothi et al., 2008). Most teachers agreed that more training on children's mental health is necessary. However, some teachers reported hesitation in receiving more training in order to prevent confusion surrounding the role of teaching staff (Rothi et al., 2008). Many teachers reported concerns regarding their time and access to receive more training, suggesting that there are too many demands on their time as it is. Additionally, some teachers reported being resistant to training in mental health. These results suggest a need for good practice models to identify the role teachers might need to play in helping students with mental health problems, pre-service training regarding children's mental health, and interventions for students displaying mental health concerns.

**Lack of Training**

In order to address all of the unique needs of students, it is imperative that teachers receive appropriate training and develop an understanding of mental health issues in children. Although the prevalence of childhood mental health problems continues to rise, often the sole focus of pre-service instruction and preparation is on teaching academic content (Koller et al., 2004). Pre-service training in the area of mental health is often missing or neglected completely. Researchers assessed two groups of participants: 35 experienced teachers and 20 first-year teachers (Koller et al., 2004). Experienced teachers felt that their undergraduate program did not prepare them to deal with the mental health issues in schools. In contrast, the first-year teachers felt significantly more prepared to deal with children with mental health problems based on their undergraduate education. Researchers hypothesized that since there has been a shift in pre-service education within the last ten years from a teacher-centered approach to a student-center approach, new teachers may be better equipped to deal with individual needs of children (Koller et al., 2004). The researchers also hypothesized that the first-year teachers might not realize that they need more training and knowledge in the areas of mental health and will discover this with more time spent working in the schools (Koller et al, 2004). There is an apparent need for more required mental health training at the pre-service level.

The study described above (i.e., Koller et al., 2004) suggests that traditional pre-service training and preparation for teachers is insufficient in the area of mental health. Pre-service training could be re-evaluated and shifted to prepare teachers to deal with the increasing individual mental health needs of students. Currently, most pre-service

teachers' exposure to mental health happens through a general psychology course or an educational psychology course (Koller & Bertel, 2006). These types of courses may expose teachers to a variety of mental health disorders, but they do not provide education surrounding identification of mental health problems in students and potential classroom interventions. Researchers suggest that mental health efforts from schools are typically reactive rather than proactive and not focused on early prevention efforts (Koller & Bertel, 2006). Traditional pre-service training does not stress the importance of student mental health and focuses on pathology instead of strategies for prevention. Training standards are often narrowly defined by academic subject matter and pedagogical skills, leaving knowledge surrounding mental health up to chance or unaddressed. Unfortunately, many students with mental health problems go undetected because teachers are often primarily concerned with the pressure to demonstrate student success through academic content, (Koller & Bertel, 2006).

Previous research has explored whether or not teachers are able to accurately identify symptoms of internalizing disorders in students. For example, researchers have examined teachers' ability to recognize self-reported depressive symptoms in their middle school students, finding a high proportion of teachers are unable to identify depressive symptoms among early adolescents (Auger, 2004). These results are troubling. If teachers are unable to identify internalizing symptoms in students such as depressive behaviors, it may be unlikely that these students receive help. Furthermore, teachers generally believe schools should play an important role in students' mental health despite not feeling adequately prepared. For example, Reinke, Stormont, Herman, Puri, and Goel (2011) administered a survey to 292 early childhood and elementary school teachers with

varying experience from five different school districts. The survey asked teachers questions regarding their perceptions about the school's role in addressing mental health problems in children. These researchers found that 89% of teachers thought that schools should be involved in addressing mental health issues in children. However, only 34% of the teachers felt prepared and knowledgeable in supporting these children (Reinke et al. 2011). In a related study, over two-thirds of teachers surveyed had not received any professional development or training in the area of mental health as part of in-service-training (Frose-Germain & Riel, 2012). The vast majority of teachers surveyed (97%) reported the need for more training, knowledge, and skills related to children's mental health.

If teachers believe they play a role in addressing mental health problems in children, but feel unprepared to support these children, effective training and collaboration with knowledgeable staff is critical. The next steps should focus on providing quality pre-service and in-service training for teachers in order to arm them with effective tools to support children with mental health problems.

**Current Study**

The current study investigated pre-service educators' knowledge of internalizing and externalizing behaviors. Specifically, the study evaluated pre-service educators' ability to accurately identify internalizing and externalizing behaviors in school aged children. Considering the large number of children and adolescents experiencing internalizing symptoms who are often under-identified in schools, understanding educator preparation is important and might inform higher education curricular planning (e.g., Cunningham & Suldo, 2014). While the study's focus was on pre-service educators'

ability to identify internalizing behaviors, the study's method included both internalizing and externalizing behaviors. Subjects' ability to identify externalizing behaviors was contrasted with their ability to identify internalizing behaviors. Given previous research, the expectation was that internalizing behaviors would be more difficult to identify. Currently, however, there are no existing studies examining knowledge of either internalizing and externalizing behaviors among four separate groups of pre-service educators (i.e., General Education, Special Education, General Education/Special Education, and Speech Language Pathology).

Research suggests children with mental health issues are at an increased risk for poor school performance (DeSocio and Hootman, 2004). These results, combined with the under-identification of students with internalizing behaviors, pose serious risks to children's mental health and academic success. Currently, research suggests a lack of pre-service training in mental health, which hinders educators' ability to identify and support students with less obvious internalizing symptoms. Increased pre-service training in mental health will not only foster early identification of emotional or behavioral problems, but will increase educators' confidence in supporting students with mental health needs.

Given the research noted above, hypotheses were as follows: (1) Pre-service educators will demonstrate chance performance on the survey for internalizing behaviors (50% correct) and slightly above chance performance for externalizing behaviors (60% - 70% correct) (2) Pre-service educators will indicate a lack of knowledge about the difference between externalizing and internalizing behaviors, and (3) Year in training will be positively correlated with ability to identify internalizing and externalizing behaviors.

# Chapter II

# Method

## Participants

A total of 144 pre-service educators completed the survey (136 female and 8 male). Table 1 displays participant demographic information. Participants were undergraduate and graduate students from a mid-sized public university in the upper Midwest. The majority of the participants were White (98%), but smaller percentages were Asian (<1%) and Other (1%). Participants majored in General Education (30%), Special Education (11%), General Education/Special Education (17%), and Speech and Language Pathology (42%). Recruitment efforts aimed for a response rate of 160 pre-service students, with approximately 40 participants from each of the four majors. A total of 208 pre-service educators opened the online survey. However, 64 were omitted due to incomplete response. Of the 64 omitted surveys, 40 were left entirely blank and 24 had a significant number of missing items or incomplete responses.

Table 1. *Participant Demographic Information*

| | n | Percentage |
|---|---|---|
| Gender | | |
| Female | 136 | 94% |
| Male | 8 | 6% |
| Year in School | | |
| Freshman/1st year in college | 19 | 13% |
| Sophomore/2nd year in college | 20 | 14% |
| Junior/3rd year in college | 24 | 17% |
| Senior/4th year in college | 37 | 26% |
| 5th year in college or beyond | 22 | 15% |
| Graduate School | 22 | 15% |
| Major | | |
| Special Education | 15 | 11% |
| General Education | 43 | 30% |
| SPED/Gen Ed | 25 | 17% |
| Speech & Language Pathology | 61 | 42% |
| Race | | |
| White | 138 | 98% |
| Black or African American | 0 | 0% |
| American Indian or Alaska Native | 0 | 0% |
| Asian | 1 | <1% |
| Native Hawaiian or Pacific Islander | 0 | 0% |
| Other | 5 | 1% |

**Instrument**

The survey was developed by the researcher and was designed with the purpose of evaluating pre-service educators' ability to accurately identify internalizing and externalizing behaviors that are common among school aged children. Survey items were derived from the Behavioral Assessment System for Children – 3 (BASC-3) rating scale (Reynolds & Kamphaus, 2015). The BASC-3 is a commonly used rating scale in which parents and teachers rate their perceptions of the child's problem behaviors in the home

and school environment. The survey was designed to be completed anonymously using the online survey platform Qualtrics. A full version of the survey can be found in Appendix A.

The survey consisted of two components. The first component included 84 statements pulled from the Externalizing and Internalizing BASC-3 Composites. Participants were asked to identify the statements as either Internalizing and Externalizing. Survey statement were ordered randomly. Examples of internalizing items included "has panic attacks," "tries to be perfect," and "shows fear of strangers." Examples of externalizing items included, "threatens to hurt others," "gets into trouble," and "cheats in school."

The second component of the survey asked participants for demographic information. The following information was obtained from participants: gender, year in school, ethnicity, major, previous education on Internalizing and Externalizing disorders, and experience (children from birth-5, age 6-11, or age 12-18).

The final survey was developed following a peer review process. Drafts were revised based on feedback from school psychology graduate students and university faculty in the Department of Psychology. Feedback addressed coverage of content, layout and readability, and missing aspects of the study's purpose that should be included that could help understand pre-service teachers' understanding and attitudes towards mental health issues in schools. The final draft of the peer-reviewed survey was sent out to pre-service educators.

## Design and Procedure

The study used a non-experimental research design. Variables under investigation were pre-service educators' ability to distinguish between internalizing and externalizing symptoms in school-aged children, prior education related to internalizing and externalizing disorders, and level of training and knowledge among four groups of pre-service educators. Specifically, the following research assessed (a) whether pre-service educators know what to look for when identifying internalizing symptoms, (b) pre-service educators' previous education regarding internalizing and externalizing symptoms, (c) if level of training and knowledge varied among groups of pre-service educators.

Approval from the researcher's university Institutional Review Board was obtained before the study began. Participants were recruited through the Education Studies Department, Special Education Department, and Department of Communication Sciences and Disorders. Chairpersons from each department were asked to send the online survey to undergraduate and graduate students within their departments. All Department Chairpersons agreed to send out the survey. A reminder email was sent two weeks later asking the Department Chairpersons to resend the link to the online survey. After participants completed the online survey, the researcher did not have access to participants' email addresses or IP addresses. The emails sent to each Department Chairperson to be forwarded to pre-service students in their department are found in Appendix B. To increase response rate, an incentive was provided. Each student who completed the survey was entered into a drawing to win a selection of small prizes, such

as gift cards. The majority of pre-service teachers (95%) consented to participate in the incentive drawing.

**Data Analysis**

Percent correct for each participant was obtained by dividing total number correct by the total number of survey statements (84). An answer was scored correct if the participant correctly identified the symptom as internalizing or externalizing. Four single-factor analyses of variance (ANOVA) were computed to determine if percent correct differed significantly among different majors, experience with different age groups, and previous exposure to internalizing and externalizing symptoms through pre-service training. Statistical significance was set a priori at .05. A Bonferroni Correction was calculated to correct for Type I error. The corrected p-value was set at .0125 (.05/4 tests). Mean percent correct and standard deviations were calculated for four groups of pre-service educators: special education, general education, special education/general education, and speech and language pathology. Next, a Pearson correlation was computed to assess the relationship between percent correct and year in school. Finally, A one-sample proportion was performed on each of the 84 questions presented in the survey. Item analysis was used to reveal questions that pre-service educators were less than 75% likely to get correct.

# CHAPTER III

## Results

### ANOVA

Four single-factor analyses of variance (ANOVA) were computed to determine if percent correct differed significantly among different majors, experience with different age groups, and previous exposure to internalizing and externalizing symptoms through pre-service training. Statistical significance was set a priori at .05. A Bonferroni Correction was calculated to correct for Type I error. The corrected p-value was set at .0125 (.05/4).

#### *Percent Correct by Major*

Table 2. *Percent Correct by Participant Major*

| Major | N | Mean | Standard Deviation |
|---|---|---|---|
| Special Education | 15 | 84.6 | 6.88 |
| General Education | 43 | 84.0 | 10.1 |
| SPED/Gen Ed | 25 | 86.9 | 8.48 |
| Speech & Language Pathology | 61 | 86.1 | 8.60 |
| Total Participants | 144 | 85.4 | 8.89 |

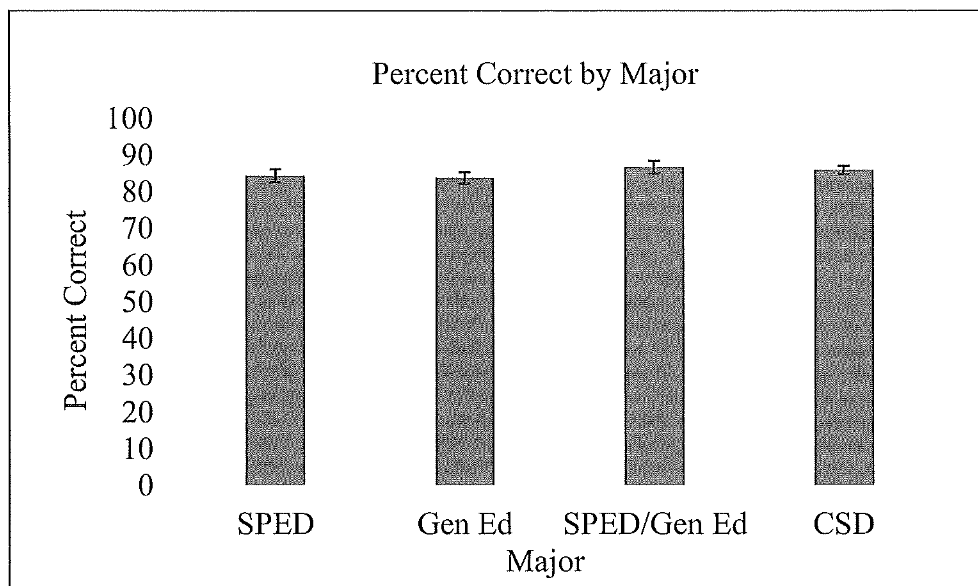


Figure 1. *Mean Percent Correct by Major with 95% CIs for Each Group Mean*

A One-way ANOVA was conducted to make comparisons between groups on the dependent variable of percent correct. The analysis revealed a non-significant effect of percent correct on major, $F(3, 140) = 0.74$, $p=.527$, $\eta^2 = .02$. Differences in major accounted for 2% of variance in percent correct. As displayed in Table 2 and Figure 1, there was not a significant difference in percent correct between groups. The average percent correct on the survey across all participants was 85.40% (N= 144, *SD*= 8.89). Pre-service educators who majored in Special Education answered 84.6% of the survey questions correctly (N= 15, SD = 6.88). Pre-service educators who majored in General Education answered 84.0% of the survey questions correctly (N = 43, SD = 10.10). Pre-service educators who majored in both Special Education and General Education answered 86.9% of the survey questions correctly. Pre-service educators who majored in Speech and Language Pathology answered 86.1% of the survey questions correctly (N= 61, SD=8.60).

***Percent Correct by Experience***

Table 3. *Mean Percent Correct by Experience*

| | N | Mean | Standard Deviation |
|---|---|---|---|
| Birth to 5 | 37 | 86.3 | 7.63 |
| Age 6-11 | 81 | 85.2 | 9.82 |
| Age 12-18 | 24 | 84.6 | 7.78 |

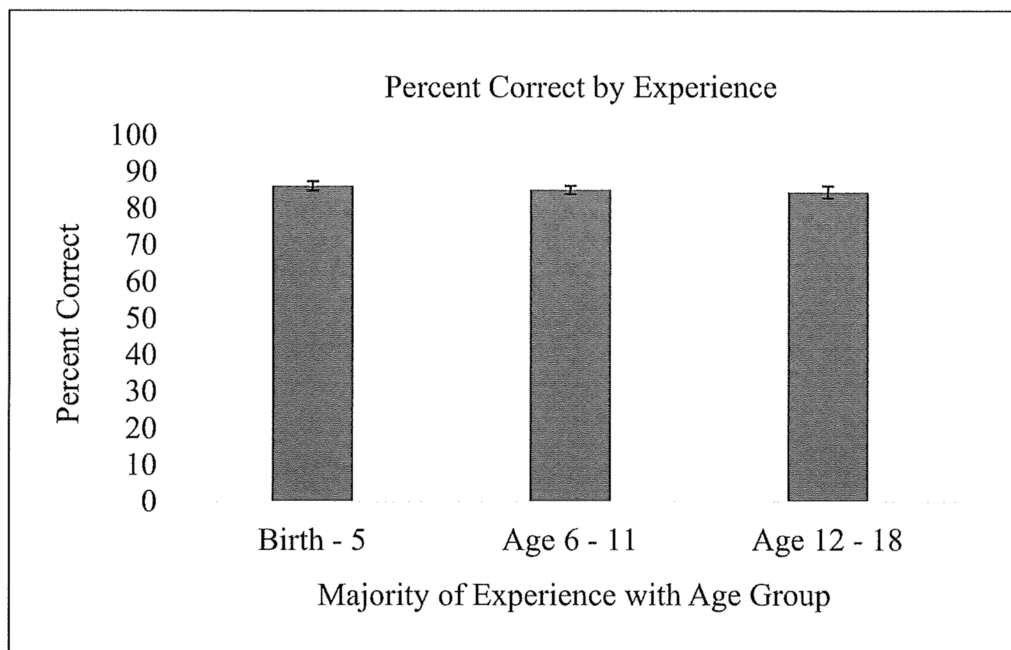


Figure 2. Mean Percent Correct by Experience with 95% CIs for Each Group Mean

A One-way ANOVA was conducted to make comparisons between groups on the dependent variable of percent correct. The analysis revealed a non-significant effect of percent correct on experience, $F(2,139) = 0.32$, $p=.724$, $\eta^2 = .005$. Differences in experience accounted for .05% of variance in percent correct. As displayed in Table 3 and Figure 2, there was not a significant difference in percent correct between groups. Pre-service educators who had the most experience with children from birth to 5 years old answered 86.3% of the survey questions correctly (N= 37, SD=7.63). Pre-service

educators who had the most experience with children from 6 to 11 years old answered 85.2% of the survey questions correctly (N= 81, SD= 9.82). Pre-service educators who had the most experience with children from 12 to 18 years old answered 84.6% of the survey questions correctly (N=24, SD =7.78).

***Percent Correct by Previous Exposure to Internalizing & Externalizing Symptoms***

Table 4. *Mean Percent Correct by Previous Exposure to Internalizing Symptoms*

| | N | Mean | Standard Deviation |
|---|---|---|---|
| Yes | 58 | 85.1 | 9.92 |
| No | 86 | 85.7 | 8.18 |

Table 5. *Mean Percent Correct by Previous Exposure to Externalizing Symptoms*

| | N | Mean | Standard Deviation |
|---|---|---|---|
| Yes | 57 | 85.6 | 9.34 |
| No | 87 | 85.4 | 8.64 |

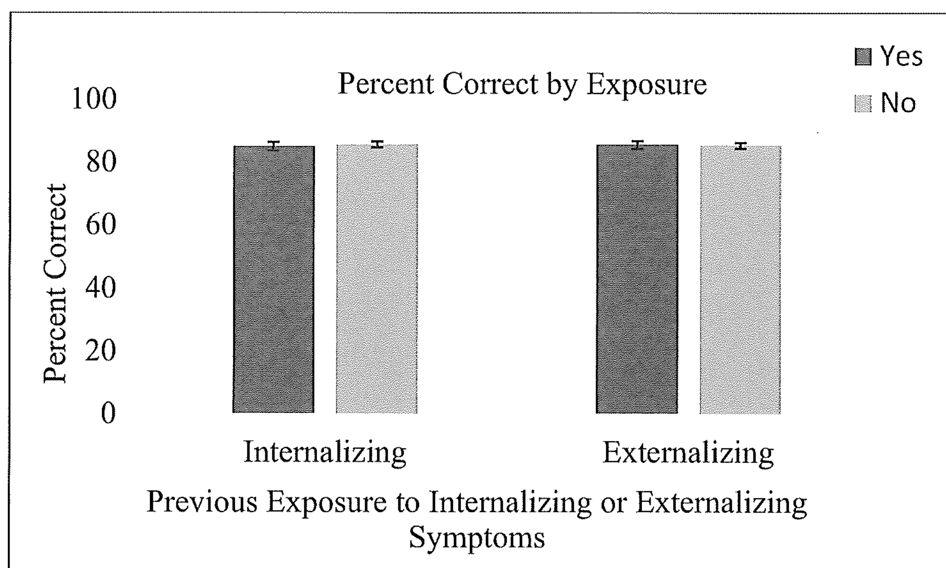


Figure 3. Mean Percent Correct by Previous Exposure to Internalizing and Externalizing Symptoms with 95% CIs for Each Group Mean

A One-way ANOVA was conducted to make comparisons between groups on the dependent variable of percent correct. The analysis revealed a non-significant effect of percent correct on previous exposure, $F(1,142) = .14, p=.705, \eta^2 = .001$. Differences in previous exposure accounted for .01% of differences in percent correct. As displayed in Table 4 and Figure 3, there was not a significant difference in percent correct dependent on previous exposure to internalizing symptoms. Pre-service educators who previously learned about internalizing symptoms answered 85.1% of the survey questions correctly (N=58, SD=9.92). Pre-service educators who previously did not learn about internalizing symptoms answered 85.7% of the survey questions correctly (N= 86, SD=8.18).

A One-way ANOVA was conducted to make comparisons between groups on the dependent variable of percent correct. The analysis revealed a non-significant effect of percent correct on previous exposure, $F(1,142) = .02, p=.891, \eta^2 = .000$. Differences in previous exposure did not account for any differences in percent correct between groups. As displayed in Table 5 and Figure 3, there was not a significant difference in percent correct dependent on previous exposure to externalizing symptoms. Pre-service educators who previously learned about externalizing symptoms answered 85.6 percent of the survey questions correctly (N=57, SD=9.34). Pre-service educators who previously did not learn about externalizing symptoms answered 85.4% of the survey questions correctly (N=87, SD=8.64).

**Correlation**

A Pearson correlation was performed to assess the relationship between percent correct and year in school. Results indicate a positive correlation between percent correct and year in school, $r =.19$, 95% CI [.03, .34], $p =.023$. A simple regression analysis

revealed that 36% of the variance in percent correct is accounted for by year in school. Results are displayed in Figure 4.

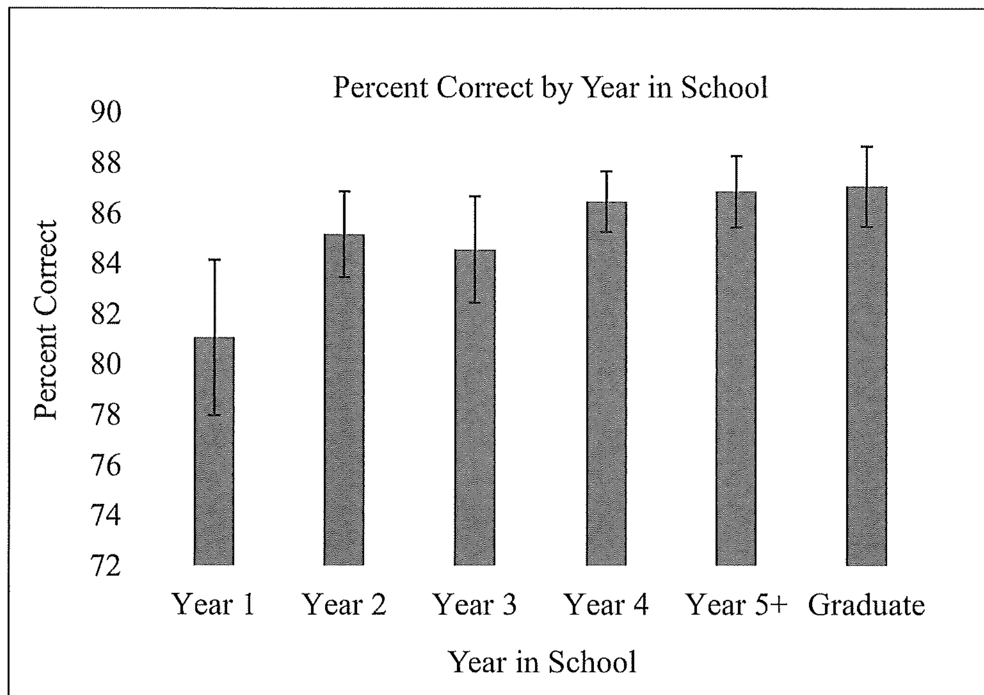


Figure 4. Mean Percent Correct by Year in School with 95% CIs for Each Group Mean

**One-Sample Proportion**

A one-sample proportion was performed on each of the 84 questions presented in the survey. As displayed in Table 5, highlighted proportions represent questions that pre-service educators are less than 75% likely to get correct.

Table 6. *One-Sample Proportion of Survey Questions*

| Item (Externalizing or Internalizing Symptom) | Percent Correct [95% CI] |
|---|---|
| 1. Annoys others on purpose (Externalizing) | 92% [.87, .96] |
| 2. Argues when denied own way (Externalizing) | 90% [.83, .94] |
| 3. Breaks other children's/adolescent's things (Externalizing) | 97% [.93, .99] |
| 4. Bullies others (Externalizing) | 92% [.87, .96] |
| 5. Defies teachers, caregivers, or people in authority (Externalizing) | 90% [.84, .95] |

| | |
|---|---|
| 6. Disrupts the play of other children (Externalizing) | 97% [.93, .99] |
| 7. Gets back at others (Externalizing) | 94% [.89, .98] |
| 8. Hits other children/adolescents (Externalizing) | 98% [.94, .99] |
| 9. Is cruel to others (Externalizing) | 91% [.85,.95] |
| 10. Is overly aggressive (Externalizing) | 80% [.72, .86] |
| 11. Manipulates others (Externalizing) | 88% [.81, .92] |
| 12. Teases others (Externalizing) | 96% [.91, .98] |
| 13. Threatens to hurt others (Externalizing) | 94% [.89, .98] |
| 14. Throws or breaks things when angry (Externalizing) | 93% [.88, .97] |
| 15. Gets very upset when things are lost (Internalizing) | 77% [.69, .84] |
| 16. Has panic attacks (Internalizing) | 98% [.94, .99] |
| 17. Has trouble making decisions (Internalizing) | 97% [.93, .99] |
| 18. Is fearful (Internalizing) | 97% [.92, .99] |
| 19. Is nervous around new people (Internalizing) | 89% [.83, .94] |
| 20. Says, "I get nervous during tests," or "Tests make me nervous" (Internalizing) | 89% [ .83, .94] |
| 21. Says, "I'm afraid I will make a mistake" (Internalizing) | 90% [.84, .95] |
| 22. Says "I'm not very good at this" (Internalizing) | 89% [.82, .93] |
| 23. Says, "It's all my fault" (Internalizing) | 94% [.88, .97] |
| 24. Tries to be perfect (Internalizing) | 94% [ .89, .98] |
| 25. Worries about making mistakes (Internalizing) | 97% [.93, .99] |
| 26. Worries about things that cannot be changed (Internalizing) | 98% [.94, .99] |
| 27. Worries about what other children/adolescents think (Internalizing) | 95% [.90, .98] |
| 28. Worries about what parents think (Internalizing) | 98% [.94, .99] |
| 29. Worries about what teachers think (Internalizing) | 98% [.94, .99] |
| 30. Breaks the rules just to see what will happen (Externalizing) | 91% [.85, .95] |
| 31. Breaks the rules (Externalizing) | 97% [.92, .99] |
| 32. Cheats in school (Externalizing) | 73% [.65, .80] |
| 33. Deceives others (Externalizing) | 76% [.68, .82] |
| 34. Disobeys (Externalizing) | 90% [.84, .95] |
| 35. Gets into trouble (Externalizing) | 90% [.83, .94] |
| 36. Hurts others on purpose (Externalizing) | 95% [.90, .98] |
| 37. Is in trouble with the police (Externalizing) | 98% [.88, .97] |
| 38. Lies to get out of trouble (Externalizing) | 90% [.84, .95] |
| 39. Lies (Externalizing) | 81% [.74, .87] |
| 40. Sneaks around (Externalizing) | 90% [.84, .95] |
| 41. Steals (Externalizing) | 95% [.90, .98] |
| 42. Uses foul language (Externalizing) | 95% [.90, .98] |
| 43. Uses others' things without permission (Externalizing) | 94% [.88, .97] |

| | |
|---|---|
| 44. Changes moods quickly (Internalizing) | 77% [.70, .84] |
| 45. Cries Easily (Internalizing) | 76% [.68, .82] |
| 46. Is negative about things (Internalizing) | 82% [.75, .88] |
| 47. Is pessimistic (Internalizing) | 85% [.79, .90] |
| 48. Is sad (Internalizing) | 98% [.94, .99] |
| 49. Pouts (Internalizing) | 33% [.25, .40] |
| 50. Says, "I can't do anything right" (Internalizing) | 83% [.76, .89] |
| 51. Says, "I don't have any friends" (Internalizing) | 84% [.77, .90] |
| 52. Says, "I hate myself" (Internalizing) | 90% [.84, .95] |
| 53. Says, "I want to die" or "I wish I were dead" (Internalizing) | 81% [.73, .87] |
| 54. Says, "I want to kill myself" (Internalizing) | 79% [.72, .85] |
| 55. Says, "Nobody likes me" (Internalizing) | 89% [.82, .93] |
| 56. Seems lonely (Internalizing) | 97% [.92, .99] |
| 57. Whines (Internalizing) | 20% [.14, .28] |
| 58. Acts out of control (Externalizing) | 95% [.90, .98] |
| 59. Acts without thinking (Externalizing) | 85% [.78, .90] |
| 60. Bothers other children when they are working (Externalizing) | 98% [.94, .99] |
| 61. Cannot wait to take their turn (Externalizing) | 80% [.72, .86] |
| 62. Disrupts other children's/adolescent's activities (Externalizing) | 98% [.94, .99] |
| 63. Disrupts the school work of other children/adolescents (Externalizing) | 97% [.93, .99] |
| 64. Fiddles with things while at meals (Externalizing) | 74% [.66, .81] |
| 65. Has poor self-control (Externalizing) | 44% [.36, .53] |
| 66. Has trouble keeping hands or feet to self (Externalizing) | 89% [.83, .94] |
| 67. Has trouble staying seated (Externalizing) | 82% [.87, .88] |
| 68. Interrupts others when they are speaking (Externalizing) | 97% [.93, .99] |
| 69. Is in constant motion (Externalizing) | 81% [.74, .87] |
| 70. Is overly active (Externalizing) | 79% [.70, .85] |
| 71. Is unable to slow down (Externalizing) | 65% [.56, .72] |
| 72. Needs too much supervision (Externalizing) | 84% [.77, .90] |
| 73. Seeks attention while doing schoolwork (Externalizing) | 90% [.83, .94] |
| 74. Speaks out of turn during class (Externalizing) | 97% [.92, .99] |
| 75. Talks over others (Externalizing) | 95% [.90, .98] |
| 76. Avoids making friends (Internalizing) | 77% [.69, .84] |
| 77. Avoids other children/adolescents (Internalizing) | 62% [.53, .70] |
| 78. Clings to parents in strange surroundings (Internalizing) | 49% [.40, .57] |
| 79. Is shy with adults (Internalizing) | 77% [.69, .84] |

| | |
|---|---|
| 80. Is shy with other children/adolescents (Internalizing) | 78% [.70, .84] |
| 81. Isolates self from others (Internalizing) | 81% [.74, .87] |
| 82. Prefers to play alone (Internalizing) | 87% [.80, .92] |
| 83. Refuses to talk (Internalizing) | 68% [.60, .76] |
| 84. Shows fear of strangers (Internalizing) | 59% [.50, .67] |

***The following questions were below 75% correct:***

Question 32: Cheats in school (Externalizing)

Question 49: Pouts (Internalizing)

Question 57: Whines (Internalizing)

Question 64: Fiddles with things at meals (Externalizing)

Question 65: Has poor self-control (Externalizing)

Question 71: Is unable to slow down (Externalizing)

Question 77: Avoids other children/adolescents (Internalizing)

Question 78: Clings to parents in strange surroundings (Internalizing)

Question 83: Refuses to talk (Internalizing)

Question 84: Shows fear of strangers (Internalizing)

On the following 10 questions, pre-service educators scored less than 75 percent correct on average: cheats in school (externalizing, 73% [.65, .80]), pouts (internalizing, 73% [.65, .80]), whines (internalizing, 20% [.14, .28]), fiddles with things at meals (externalizing, 74% [.66, .81]), has poor self-control (externalizing, 44% [.36, .53]), is unable to slow down (externalizing, 65% [.56, .72]), avoids other children or adolescents (internalizing, 62% [.53, .70]), clings to parents in strange surroundings (internalizing, 49% [.40, .57]), refuses to talk to strangers (internalizing, 68% [.60, .76]), and shows fear

of strangers (internalizing, 59% [.50, .67]). Of the 10 questions below 75 percent correct, 6 questions asked pre-service educators to correctly identify the internalizing symptom. Percent correct ranged from 20% to 74%.

# CHAPTER IV

## Discussion

The purpose of this study was to evaluate pre-service educators' ability to accurately identify internalizing and externalizing behaviors among school aged children. Given previous research, the current study's hypotheses were: (1) Pre-service educators will demonstrate chance performance on the survey for internalizing behaviors (50% correct) and slightly above chance performance for externalizing behaviors (60% - 70% correct) (2) Pre-service educators will indicate a lack of knowledge about the difference between externalizing and internalizing behaviors, and (3) Year in training will be positively correlated with ability to identify internalizing and externalizing behaviors.

The study hypothesized that pre-service educators would demonstrate chance performance on the survey for internalizing behaviors (50% correct) and slightly above chance performance for externalizing behaviors (60% - 70% correct). However, results from this study did not support this hypothesis. All of the four pre-service educator groups were generally able to accurately identify both internalizing and externalizing behaviors. Additionally, experience with different age groups of children did not relate to accuracy. Therefore, this variance in experience did not affect subjects' ability to identify internalizing and externalizing behaviors in children. Pre-service educators from this study were able to identify internalizing behaviors equally as well as externalizing behaviors. These results are somewhat surprising, as previous research suggests that teachers are less accurate in identifying internalizing behaviors in children and more experienced with identifying externalizing behaviors (Cunningham & Suldo, 2014).

Results from this study supported the hypothesis that pre-service educators would report a lack of knowledge about the difference between externalizing and internalizing behaviors. Generally, more participants reported that they had not learned about either internalizing or externalizing behaviors in their pre-service education program. However, previous training and experience was not related to percent of items correct. Both groups of pre-service educators, those who had learned about internalizing and/or externalizing behaviors and those who had not, were generally able to correctly distinguish between these behaviors. Interestingly, 22 participants were in Speech Language Pathology graduate program and 22 were in their 5th year or beyond. These pre-service educators accounted for 30% of the survey sample. Pre-service educators with more experience might be better able to distinguish between internalizing and externalizing behaviors.

The hypothesis that year in training would be positively correlated with ability to identify internalizing and externalizing behaviors was supported. Results indicated a significant correlation between percent of items correct and year in school. These results are not surprising, as pre-service educators continue gaining knowledge through coursework, working with children, and observing children as they progress through their program. Continued exposure to children allows for the observation and recognition of varying childhood behaviors. This continued exposure to children through coursework and fieldwork allows for pre-service educators to develop a more complete picture of the differences between internalizing and externalizing behavior. These results are relatively inconsistent with previous research assessing two groups of participants (35 experienced teachers and 20 first-year teachers; Koller et al., 2004). Surprisingly, experienced teachers did not feel that their undergraduate program prepared them to deal with mental

health issues in schools. In contrast, first-year teachers felt significantly more prepared to work with children with mental health concerns. These results may reflect the shift in pre-service education over the last ten years from a teacher-centered approach to a more student-centered approach, allowing new teachers to be better equipped to handle the individual needs of children (Koller et al., 2004). Results from the current study may also reflect this shift, as pre-service educators from this university were generally able to distinguish between internalizing and externalizing behaviors in children.

Results from this study are inconsistent with prior research indicating that pre-service educators do not receive training in mental health concepts (Koller et al., 2004). In general, results suggested that pre-service educators from this university are skilled at differentiating between internalizing and externalizing behaviors. These results are promising, as they suggest pre-service educators from this university are adequately trained in distinguishing between internalizing and externalizing behaviors in children. Importantly, these results suggest that pre-service educators from this university are able to recognize symptoms of anxiety and depression in children, potentially allowing for early intervention and proper support for students with internalizing disorders.

These results might be extended to understand pre-service educators' skills related to identifying children and adolescent internalizing symptoms (e.g., anxiety, depression). Results from this study suggested that pre-service educators from this university were able to accurately label symptoms common to anxiety and depression as internalizing. These findings are encouraging. Previous research found a high proportion of practicing teachers are *unable* to identify depressive symptoms among early adolescents (Auger, 2004). Although results from the current study are not necessarily consistent with

previous research, these findings provide evidence that pre-service educators from the university sampled in this study *do* recognize the difference between internalizing and externalizing symptoms common among students in schools. Potentially translating to practice, these pre-service educators might be more familiar with symptoms common to anxiety and depression.

Results from this study also reflect the complex relationship between internalizing and externalizing symptoms. On the survey, participants were less likely (i.e., less than 75% correct) to accurately identify internalizing or externalizing behaviors for 10 out of the 84 survey items. Although this is hardly a significant number, these results highlight that some behaviors are less clear in their classification as either internalizing or externalizing. For example, only 20% of participants correctly identified "Whines" as an internalizing symptom (as defined by the BASC). Whining is a common childhood behavior and may be present in children with both internalizing and externalizing disorders. Whining may be considered an externalizing behavior when it is related to disruptive and oppositional behavior. Conversely, patterns of whining might be a symptom of anxiety or depression (American Psychiatric Association, 2013). Additionally, only 33% of participants correctly identified "Pouts" as an internalizing symptom (as defined by the BASC). Similar to whining, both children with internalizing and externalizing disorders pout, making it difficult to classify pouting into either category. Many studies have found externalizing and internalizing symptoms to be positively correlated (Willner, Gatzke-Kopp, & Bray, 2016). Consequently, it might be difficult to dichotomously separate some internalizing and externalizing behaviors and

conceptualizations of behaviors or symptoms might neglect the complexity of these behaviors as related to multiple presentations.

## Limitations & Future Research

Several limitations must be considered when interpreting these results. First, the survey was only administered to pre-service educators attending one university located in the Upper Midwest. Also, there were unequal numbers of pre-service educators in each of the 4 majors. Consequently, results may not be generalizable to other groups of pre-service educators at different universities or in different geographic regions. Future research should consider conducting similar studies at other universities with a more nationally representative participant population (race, gender, year in school), larger sample size, and an equal number of participants in each group. A larger sample size and equal participants in each group would improve the validity of the study's results by increasing the power of the statistical analyses. Additionally, it is important to understand how pre-service educators from the around the country might do with a similar task.

Second, definitions of internalizing and externalizing behaviors were provided to all participants before and during completion of the survey. Therefore, the survey may not be a good indication of prior knowledge of internalizing or externalizing behaviors. However, results from this study suggest that providing definitions may be important when speaking to teachers about mental health concepts since all groups of pre-service educators demonstrated the ability to distinguish between internalizing and externalizing behaviors when provided with descriptions. These results suggest that in-service training with definitions and/or handouts related to mental health may be beneficial to teachers, as

participants demonstrated the ability to recognize the difference between behaviors when descriptions were provided.

Finally, since all participants were provided definitions of internalizing and externalizing disorders within this survey, future research should consider separating participants into two groups and provide only one with definitions. By comparing percent correct between groups, this will allow for conclusions to be made regarding the significance of providing participants with definitions. It is possible that providing definitions of internalizing and externalizing behaviors allowed pre-service educators to accurately identify these behaviors within the survey.

## Implications

In general, results suggest pre-service educators from this university were able to identify differences between internalizing and externalizing behaviors. The results are positive, as teachers spend a significant amount of time with children outside of the home and are often required to provide information to others (e.g., school psychologists) about students' behavioral and mental health. Knowledge of the difference between internalizing and externalizing behaviors in children enhances teachers' ability to effectively identify students who are experiencing these problems. Early identification and intervention for students with internalizing behaviors is essential but only possible if adults including teachers recognize related symptoms. Recognition of internalizing behaviors also allows teachers to communicate with other school staff members to ensure students' needs are appropriately addressed. Findings from this study indicate that pre-service educators from this university are able to correctly identify internalizing

behaviors in children. This knowledge allows these pre-service educators to communicate competently with school staff and seek support for students with internalizing behaviors.

**Summary**

Children with internalizing disorders, specifically anxiety and depression, are more likely to demonstrate poor social and academic performance in school. Additionally, previous research suggests that children with internalizing disorders are often under-identified in schools due to their more covert presentation of symptoms (Cunningham & Suldo, 2014). As a result, it is less likely that children with internalizing disorders will be identified and then receive treatment compared to children who display outwardly disruptive behaviors (Cunningham & Suldo, 2014). Students spend a majority of their time at school, highlighting the need for educators to be knowledgeable about and properly trained in identifying and supporting children with mental health problems. If pre-service educators are prepared to recognize the difference between internalizing and externalizing symptoms, students with internalizing symptoms may receive more mental health support in schools. Also, this knowledge allows educators to communicate clearly and competently with school support staff regarding student concerns in the classroom.

In the current study, pre-service educators were generally able to accurately identify externalizing and internalizing behaviors. These results are promising, as they indicate that pre-service educators from this university may be adequately prepared to distinguish between behaviors classified as internalizing and externalizing. It is essential that educators are trained in identifying internalizing symptoms in order to ensure that students experiencing these symptoms receive support. This knowledge also allows

educators to competently and confidently talk to school staff about identified symptoms and seek early intervention for students struggling with internalizing symptoms.

## References

American Academy of Child and Adolescent Psychiatry. (2013, October). Anxiety and Children. Retrieved from https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/The-Anxious-Child-047.aspx.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

American Psychological Association. (2018). APA Dictionary of Psychology. Retrieved from https://dictionary.apa.org/externalizing-internalizing.

Auger, R.W. (2004). The accuracy of teacher reports in the identification of middle school students with depressive symptomatology. *Psychology in the Schools, 41*(3), 379-389.

Beauchaine, T.P., & Hinshaw, S.P. (2013). *Child and Adolescent Psychopathology* (2nd ed.). Hoboken, NJ: John Wiley & Sons.

Beesdo, K., Knappe, S., & Pine, D. S. (2009). Anxiety and anxiety disorders in children and adolescents: developmental issues and implications for DSM-V. *The Psychiatric clinics of North America, 32*(3), 483–524.

Beesdo-Baum, K., & Knappe, S. (2012). Developmental epidemiology of anxiety disorders. *Child and Adolescent Psychiatric Clinics of North America, 21*(3), 457-478.

Boyce, W., Essex, M., Woodward, H.R., Measelle, J., Ablow, J., & Kupfer, D. (2002). The confluence of mental, physical, social, and academic difficulties on middle childhood. I: Exploring the "headwaters" of early life morbidities. *Journal of the American Academy of Child & Adolescent Psychiatry, 41*(5), 580-587.

Chase, R.M., & Eyberg, S.M. (2007). Clinical presentation and treatment outcome for children with comorbid externalizing and internalizing symptoms. *Journal of Anxiety Disorders, 22*(2), 273-282.

Cunningham, J.M., & Suldo, S.M. (2014). Accuracy of teachers in identifying elementary school students who report at-risk levels of anxiety and depression. *School Mental Health, 6*(4), 237-250.

DeSocio, J., & Hootman, J. (2004). Children's mental health and school success. *The Journal of School Nursing, 20*(4), 189-196.

Fergusson D.M., Horwood L.J., Ridder E.M., & Beautrais A.L. (2005). Subthreshold Depression in Adolescence and Mental Health Outcomes in Adulthood. *Arch Gen Psychiatry, 62*(1), 66–72.

Franklin C.G.S, Kim, J.S., Ryan, T.N., Kelly, M.S., & Montgomery, K.L. (2012). Teacher involvement in school mental health interventions: A systematic review. *Children and Youth Services Review, 34,* 973-982.

Frauenholtz, S., Mendenhall, A.N., & Moon, J. (2017). Role of school employees' mental health knowledge in interdisciplinary collaborations to support the academic success of students experiencing mental health distress. *Children & Schools, 39*(2), 71-79.

Froese-Germain, B., & Riel, R. (2012). Understanding teachers' perspectives on student mental health, findings from a national survey. *Canadian Teachers' Federation,* 1-20.

Fröjd, S.A., Nissinen, E.S., Pelkonen, M.U.I., Marttunen, M.J., Koivisto, A., & Kaltiala-Heino, R. (2008). Depression and school performance in middle adolescent boys and girls. *Journal of Adolescence, 31*(4), 485-498.

Koller, J.R., Osterlind, S.J., Paris, K., & Weston, K.J. (2004). Differences between novice and expert teachers' undergraduate preparation and ratings of importance in the area of children's mental health. *International Journal of Mental Health Promotion, 6*(2), 40-45.

Koller, J.R., & Bertel, J.M. (2006). Responding to today's mental health needs of children, families and schools: Revisiting the preservice training and preparation of school-based personnel. *Education & Treatment of Children, 29*(2), 197-217.

Levitt, J.M., Saka N., Romanelli, L.S., & Hoagwood, K. (2007). Early identification of mental health problems in schools: The status of instrumentation. *Journal of School Psychology, 45*, 163-191.

Loades, M.E., & Mastroyannopoulou, K. (2010). Teachers recognition of children's mental health problems. *Child and Adolescent Mental Health, 15*(3), 150-156.

Mychailyszyn, M.P., Mendez, J.L., & Kendall, P.C. (2010). School functioning in youth with and without anxiety disorders: Comparisons by diagnosis and comorbidity. *School Psychology Review, 39*(1), 106-121.

Reinke, W.M., Stormont, M., Herman, K.C., Puri, R., & Goel, N. (2011). Supporting children's mental health in schools: Teacher perceptions of needs, roles, and barriers. *School Psychology Quarterly, 26*(1), 1-13.

Reynolds, C.R., Kamphaus, R.W. (2015). Behavior assessment for children: Third edition. (BASC-3). [Assessment Instrument]. Bloomington, MN: Pearson.

Rothì, D.M., Leavey, G., & Best, R. (2008). On the front-line: Teachers as active observers of pupils' mental health. *Teaching and Teacher Education, 24*(5), 1217-1231.

Singhal M, Manjula M, & Sagar KJ. (2016). Subclinical depression in Urban Indian adolescents: Prevalence, felt needs, and correlates. *Indian Journal of Psychiatry, 58*, 394-402.

The National Institute of Mental Health. (2015). Major Depression Among Adolescents. Retrieved from https://www.nimh.nih.gov/health/statistics/major-depression.shtml.

The National Institute of Mental Health. (2018). Anxiety Disorders. Retrieved from https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml.

The National Institute of Mental Health. (2019). Major Depression. Retrieved from https://www.nimh.nih.gov/health/topics/depression/index.shtml.

The National Institute of Mental Health. (2017). Any Anxiety Disorder Among Adolescents. Retrieved from https://www.nimh.nih.gov/health/statistics/any-anxiety-disorder.shtml#part_155096.

Walter, H.J., Gouze, K., & Lim, K.G. (2006). Teachers' beliefs about mental health needs in inner city elementary schools. *Journal of the American Academy of Child & Adolescent Psychiatry, 45*(1), 61-68.

Willner, C.J., Gatzke-Kopp, L.M., & Bray, B.C. (2016). The dynamics of internalizing and externalizing comorbidity across the early school years. *Development and Psychopathology*, *28*(4pt1), 1033–1052.

Appendix A

Thesis Survey:

Start of Block: Cover Letter/Consent/Instructions

You are being asked to participate in an online survey for a research project (2018-2019 school year) conducted through the University of Wisconsin - Eau Claire. The University requires that you give your approval to participate in this project. You must be at least 18 years old to take this survey.

We are interested in knowing your opinions about common childhood issues. You will be asked to classify common childhood problems into externalizing and internalizing categories. Please refer to the following definitions when answering questions:

**Externalizing behaviors**: A grouping of behavior problems that are manifested in children's outward behavior and reflect the child negatively acting on the external environment.

**Internalizing behaviors**: Problems that more centrally affect the child's internal psychological environment rather than the external world.

The survey will take you approximately 10 minutes to complete. There are no anticipated risks to participants. At the end of this survey, you may indicate if you would like to be entered into a drawing for a gift card towards local Eau Claire Restaurants. If you have any questions, please feel free to contact:

Oceana David-Weber (Graduate Student)
davidwob1910@uwec.edu
(715) 577-9376
or
Dr. Leah Olson-McBride (Acting IRB Chair)

olsonmcl@uwec.edu
(715) 836-5404

Your participation in this study is completely voluntary. If you decide to participate now you may stop at any time and for any reason, without penalty or loss of any future services that you may be eligible to receive from the University of Wisconsin - Eau Claire. You can choose to not answer an individual question or you may skip any section of the survey by continuing with the next question of the survey.

Do you consent to these terms?

○ Yes (1)

○ No (2)

Q108 Are you over the age of 18?

○ Yes (1)

○ No (2)

*Skip To: End of Survey If Are you over the age of 18? != Yes*

End of Block: Cover Letter/Consent/Instructions

Start of Block: Questions

Q1

You will be asked to classify common childhood problems into externalizing and internalizing categories. Please refer to the following definitions when answering questions:

**Externalizing behaviors:** A grouping of behavior problems that are manifested in children's outward behavior and reflect the child negatively acting on the external environment.

**Internalizing behaviors:** Problems that more centrally affect the child's internal psychological environment rather than the external world.

Annoys others on purpose.

- Externalizing (1)
- Internalizing (2)

Q2 Argues when denied own way.

- Externalizing (1)
- Internalizing (2)

Q3 Breaks other children's (adolescents') things.

- Externalizing (1)
- Internalizing (2)

Q4 Bullies others.

- Externalizing (1)
- Internalizing (2)

Q5 Defies teachers (or caregivers, people in authority).

- Externalizing (1)
- Internalizing (2)

Q6 Disrupts the play of other children.

- Externalizing (1)
- Internalizing (2)

Q7 Gets back at others.

- Externalizing (1)
- Internalizing (2)

Q8 Hits other children (adolescents).

- Externalizing (1)
- Internalizing (2)

Q9 Is cruel to others.

- Externalizing (1)
- Internalizing (2)

Q10 Is overly aggressive.

- Externalizing (1)
- Internalizing (2)

**Internalizing behaviors:** Problems that more centrally affect the child's internal psychological environment rather than the external world.

Manipulates others.

- Externalizing (1)
- Internalizing (2)

Q12 Teases others.

- Externalizing (1)
- Internalizing (2)

Q13 Threatens to hurt others.

- Externalizing (1)
- Internalizing (2)

Q14 Throws or breaks things when angry.

- Externalizing (1)
- Internalizing (2)

Q15 Gets very upset when things are lost.

- Externalizing (1)
- Internalizing (2)

Q16 Has panic attacks.

- Externalizing (1)
- Internalizing (2)

Q17 Has trouble making decisions.

- Externalizing (1)
- Internalizing (2)

Q18 Is fearful.

- Externalizing (1)
- Internalizing (2)

Q19 Is nervous around new people.

- Externalizing (1)
- Internalizing (2)

Q20 Says, "I get nervous during tests" or "Tests make me nervous."

- ○ Externalizing (1)
- ○ Internalizing (2)

Q21

**Externalizing behaviors:** A grouping of behavior problems that are manifested in children's outward behavior and reflect the child negatively acting on the external environment.

**Internalizing behaviors:** Problems that more centrally affect the child's internal

psychological environment rather than the external world.
Says, "I'm afraid I will make a mistake."

- Externalizing (1)
- Internalizing (2)

Q22 Says, "I'm not very good at this."

- Externalizing (1)
- Internalizing (2)

Q23 Says, "It's all my fault."

- Externalizing (1)
- Internalizing (2)

Q24 Tries to be perfect.

- Externalizing (1)
- Internalizing (2)

Q25 Worries about making mistakes.

- Externalizing (1)
- Internalizing (2)

Q26 Worries about things that cannot be changed.

- Externalizing (1)
- Internalizing (2)

Q27 Worries about what other children (adolescents) think.

- Externalizing (1)
- Internalizing (2)

Q28 Worries about what parents think.

- Externalizing (1)
- Internalizing (2)

Q29 Worries about what teachers think.

- Externalizing (1)
- Internalizing (2)

Q30

**Externalizing behaviors:** A grouping of behavior problems that are manifested in children's outward behavior and reflect the child negatively acting on the external environment.

**Internalizing behaviors:** Problems that more centrally affect the child's internal psychological environment rather than the external world.

Breaks the rules just to see what will happen.

- ○ Externalizing (1)
- ○ Internalizing (2)

Q31 Breaks the rules

- ○ Externalizing (1)
- ○ Internalizing (2)

Q32 Cheats in school.

- ○ Externalizing (1)
- ○ Internalizing (2)

Q33 Deceives others.

- ○ Externalizing (1)
- ○ Internalizing (2)

Q34 Disobeys.

- ○ Externalizing (1)
- ○ Internalizing (2)

Q35 Gets into trouble.

- ○ Externalizing (1)
- ○ Internalizing (2)

Q36 Hurts others on purpose.

- ○ Externalizing (1)
- ○ Internalizing (2)

Q37 Is in trouble with the police.

- ○ Externalizing (1)
- ○ Internalizing (2)

Q38 Lies to get out of trouble.

- ○ Externalizing (1)
- ○ Internalizing (2)

Q39 Lies.

- ○ Externalizing (1)
- ○ Internalizing (2)

Q40

**Externalizing behaviors:** A grouping of behavior problems that are manifested in children's outward behavior and reflect the child negatively acting on the external environment.

**Internalizing behaviors:** Problems that more centrally affect the child's internal psychological environment rather than the external world.

Sneaks around.

- Externalizing (1)
- Internalizing (2)

Q41 Steals.

- Externalizing (1)
- Internalizing (2)

Q42 Uses foul language.

- Externalizing (1)
- Internalizing (2)

Q43 Uses others' things without permission.

- Externalizing (1)
- Internalizing (2)

Q44 Changes moods quickly.

- Externalizing (1)
- Internalizing (2)

Q45 Cries easily.

- Externalizing (1)
- Internalizing (2)

Q46 Is negative about things.

- Externalizing (1)
- Internalizing (2)

Q47 Is pessimistic.

- Externalizing (1)
- Internalizing (2)

Q48 Is sad.

- Externalizing (1)
- Internalizing (2)

Q49 Pouts.

- Externalizing (1)
- Internalizing (2)

Q50

**Externalizing behaviors:** A grouping of behavior problems that are manifested in children's outward behavior and reflect the child negatively acting on the external environment.

**Internalizing behaviors:** Problems that more centrally affect the child's internal psychological environment rather than the external world.

Says, "I can't do anything right."

- Externalizing (1)
- Internalizing (2)

Q51 Says, "I don't have any friends."

- Externalizing (1)
- Internalizing (2)

Q52 Says, "I hate myself."

- Externalizing (1)
- Internalizing (2)

Q53 Says, "I want to die" or "I wish I were dead."

- Externalizing (1)
- Internalizing (2)

Q54 Says, "I want to kill myself."

- Externalizing (1)
- Internalizing (2)

Q55 Says, "Nobody likes me."

- Externalizing (1)
- Internalizing (2)

Q56 Seems lonely.

- Externalizing (1)
- Internalizing (2)

Q57 Whines.

- Externalizing (1)
- Internalizing (2)

Q58 Acts out of control.

- Externalizing (1)
- Internalizing (2)

Q59 Acts without thinking.

- Externalizing (1)
- Internalizing (2)

Q60

**Externalizing behaviors:** A grouping of behavior problems that are manifested in children's outward behavior and reflect the child negatively acting on the external environment.

**Internalizing behaviors:** Problems that more centrally affect the child's internal psychological environment rather than the external world.

Bothers other children when they are working.

- Externalizing (1)
- Internalizing (2)

Q61 Cannot wait to take turn.

- Externalizing (1)
- Internalizing (2)

Q62 Disrupts other children's (adolescent's) activities.

- Externalizing (1)
- Internalizing (2)

Q63 Disrupts the schoolwork of other children (adolescents).

- Externalizing (1)
- Internalizing (2)

Q64 Fiddles with things while at meals.

- Externalizing (1)
- Internalizing (2)

Q65 Has poor self-control.

- Externalizing (1)
- Internalizing (2)

Q66 Has trouble keeping hands or feet to self.

- Externalizing (1)
- Internalizing (2)

Q67 Has trouble staying seated.

- Externalizing (1)

○ Internalizing (2)

Q68 Interrupts others when they are speaking.

○ Externalizing (1)

○ Internalizing (2)

Q69 Is in constant motion.

○ Externalizing (1)

○ Internalizing (2)

Q70 Is overly active.

○ Externalizing (1)

○ Internalizing (2)

Q71 Is unable to slow down.

○ Externalizing (1)

○ Internalizing (2)

Q72 Needs too much supervision.

○ Externalizing (1)

○ Internalizing (2)

Q73 Seeks attention while doing schoolwork.

- Externalizing (1)
- Internalizing (2)

Q74 Speaks out of turn during class.

- Externalizing (1)
- Internalizing (2)

Q75 Talks over others.

- Externalizing (1)
- Internalizing (2)

Q76

**Externalizing behaviors:** A grouping of behavior problems that are manifested in children's outward behavior and reflect the child negatively acting on the external environment.

**Internalizing behaviors:** Problems that more centrally affect the child's internal psychological environment rather than the external world.

Avoids making friends.

- Externalizing (1)
- Internalizing (2)

Q77 Avoids other children (adolescents).

- Externalizing (1)
- Internalizing (2)

Q78 Clings to parents in strange surroundings.

- Externalizing (1)
- Internalizing (2)

Q81 Isolates self from others.

- Externalizing (1)
- Internalizing (2)

Q82 Prefers to play alone.

- Externalizing (1)
- Internalizing (2)

Q83 Refuses to talk.

- Externalizing (1)
- Internalizing (2)

Q84 Shows fear of strangers.

- Externalizing (1)
- Internalizing (2)

End of Block: Questions

Start of Block: Debrief

Q104
Thank you for taking the time to complete this survey. Your contribution will help me with my research study, Evaluating Pre-Service Educators' Understanding of Internalizing Disorders in Students. Although we are interested in your opinions of common childhood problems, the actual purpose of this survey was to measure your knowledge of externalizing and internalizing behaviors in children and adolescents. The current study assesses pre-service educators' understanding of mental health issues in children, previous and current training in mental health, and potential barriers to providing support. In addition, we are interested in assessing differences in knowledge between groups of pre-service students (Special Education, General Education, and Speech and Language Pathology). If you have any questions, please feel free to contact:

Oceana David-Weber (Graduate Student)
davidwob1910@uwec.edu
(715) 577-9376

Again, thank you for your participation and contribution to research! There are a few brief demographic questions to answer before the survey ends.

End of Block: Debrief

Start of Block: Incentive

Q110 Would you like to be entered into a drawing for a card that offers discounts at local Eau Claire restaurants? If selected, you will be contacted and can pick up your gift card in the Human Sciences and Services building.

- ☐ Yes (1)
- ☐ No (2)

*Display This Question:*

*If Would you like to be entered into a drawing for a card that offers discounts at local Eau Claire... = Yes*

Q112 Please enter your email address in order to be entered into the drawing.

________________________________________________________________

**End of Block: Incentive**

**Start of Block: Demographics**

Q90 What department is your major in?

- Special Education (1)
- General Education (2)
- Special Education/General Education (3)
- Speech and Language Pathology (4)

Q91 Sex

- Male (1)
- Female (2)

Q92 Ethnicity

- ○ White (1)
- ○ Black or African American (2)
- ○ American Indian or Alaska Native (3)
- ○ Asian (4)
- ○ Native Hawaiian or Pacific Islander (5)
- ○ Other (6)

Q93 Year in school?

- ○ 1 (1)
- ○ 2 (2)
- ○ 3 (3)
- ○ 4 (4)
- ○ 5+ (5)
- ○ Graduate student (6)

Q94 Have you learned about externalizing problems in your program?

- ○ Yes (1)
- ○ No (2)

Q95 Have you learned about internalizing problems in your program?

- ○ Yes (1)
- ○ No (2)

Q96 The majority of my experiences have been with children aged...

- Birth to 5 (preschool) (1)
- 6-11 (elementary school) (2)
- 12-18 (middle school/high school) (3)

End of Block: Demographic

Appendix B

Participant Recruitment Email:

Dear BluGold Pre-service Educators,

My name is Oceana David-Weber and I am currently a graduate student in the School Psychology Program at University of Wisconsin – Eau Claire. As part of my program, I am required to complete an empirical research study. I am interested in knowing pre-service educators' opinions about common childhood emotional and behavioral issues. I hope to gather a variety of opinions of pre-service educators who are studying General Education, Special Education, and Speech and Language Pathology.

You will be asked to classify common childhood problems into externalizing and internalizing categories as well as respond to a few brief demographic questions. The survey will take you approximately 10 minutes to complete. There are no anticipated risks to participants. At the end of this survey, you may indicate if you would like to be entered into a drawing for a gift card that provides discounts to many local Eau Claire restaurants.

If you are interested in participating, please click on or copy and paste the following hyperlink and it will direct you to the survey: https://uweauclaire.qualtrics.com/jfe/form/SV_85PC7PfCzUc1rEx

If you have any questions, please do not hesitate to contact me at davidwob1910@uwec.edu or (715) 577-9376.

Thank you for your participation and contribution to research at the University of Wisconsin – Eau Claire!

Oceana David-Weber, MSE
Graduate Student – School Psychology
University of Wisconsin – Eau Claire