INFLUENCES OF TEACHER AND CHILD

TEMPERAMENT OF GUIDANCE STRATEGIES IN

THE CLASSROOM

By

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Abstract: The aim of this research is to investigate how introversion and extroversion in teachers affects the types of guidance strategies they employ in response to introverted and extroverted students in the classroom. Previous research has focused on how teachers respond and react to introverted behaviors in their students. To address the gaps in previous research, the purpose of this study is to examine how teachers respond to different behaviors represented in introverted and extroverted students, while also considering the effect teacher introversion and extroversion have on the types of guidance strategies they use. Results indicate that despite teachers' introversion or extroversion they interacted similarly with all students. All teachers are more likely to use behavioral regulation with all student temperament types over socioemotional supports. Teachers attributed introversion and extroversion differently and guidance strategies used with introverted students were significantly affected by what teachers determine the locus of the behavior to be. The findings suggest that teachers are familiar with behavioral regulation strategies, but may not be as familiar or comfortable with socioemotional support strategies. The attribution factors provide a better understanding of how teachers perceive introverted and extroverted behaviors in the classroom.

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CHAPTER I

INTRODUCTION

Problem Statement

Temperament is often described as fitting within two broad categories, introverted or extroverted. Value is typically placed on extroversion, as being outgoing and assertive is often respected more in the professional world (Cain, 2012). This belief has also translated into the school system. Classroom environments promote the development of extroverted characteristics, while working to change behaviors of introverts to address risks associated with quiet students. Introverted students are less likely to display behavioral issues in the classroom, face increased negative consequences in social and academic environments, and teachers often label these students as less intelligent (Coplan, Hughes, Brosacki, & Rose-Krasnor, 2011).

Education research literature is beginning to focus more on behavioral responses and strategies for working with introverted children, with a growing concern for the quiet students in the classroom over the loud and active students that commonly occupy teachers' time and efforts. Strategies often are designed to bring quiet students out of their shells, with teachers working toward increasing extroverted characteristics and behaviors within students. However, introverted students should not have to change their temperament to fit the more extroverted expectations held by classroom teachers. The

current study expands on previous research that considers how teachers view and react to introverted and extroverted students in their classroom by examining guidance strategies that teachers use when responding to introverted and extroverted behavior within students. This study builds upon previous research through considering whether a teacher's introversion or extroversion affects the types of guidance strategies they use in response to students with the same or different temperament.

CHAPTER II

THEORETICAL FOUNDATIONS

Goodness of Fit Theory

Goodness of Fit is a mid-level theoretical model that looks at the relation between the environment and an individual's temperament. Thomas and Chess (1977) originally discussed this idea while performing research in the area of temperament. In developing this model, they identified the importance of considering temperament within the environmental context, rather than independent of outside stressors or opportunities. The interaction between the abilities and motives of the individual and the environment produces behavioral responses, which as individuals face repetitive or new situations and environments, reinforce new behavioral characteristics. With this knowledge, Thomas and Chess argued that in order to understand characteristics of children's reactions to unfamiliar stimuli, the environmental situation in which the response occurred must be considered. Based on these findings of the adaptive nature observed between child's behaviors and environmental influences, the term "goodness of fit" as selected as their findings elaborated on the idea of fitness of environment originally developed by Henderson (Thomas & Chess, 1977). This model examines characteristics of an environment and how that aligns with an individual's characteristics, abilities, and behaviors. They believed that without synchrony between temperament and environment,

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children's development and behaviors can be negatively affected. Unlike other theorists at the time, Thomas and Chess (1981) believed that the relations between individuals and their environment was reciprocal, with changes in one causing changes in the other.

Thomas and Chess (1977) hypothesized that infants have innate behaviors that determine how they react to their environment and how they respond to their caretakers. To test this, they developed a longitudinal study to see if temperamental differences could be identified from birth to adolescence, and whether temperamental characteristics influenced the interaction between the child and their environment. Through this primary study, called the New York Longitudinal Study (NYLS), Thomas and Chess were able to conceptualize several key tenets of their Goodness of Fit model, including nine different categories of temperament. These categories are used to classify a person's temperament and include: activity levels, rhythmicity, approach or withdrawal, adaptability, threshold of responsiveness, intensity of reaction, quality of mood, distractibility, attention span, and persistence. Using these categories and the data that they collected, they determined three common temperament types: "Easy Child", "Difficult Child", and "Slow-To-Warm-Up Child" (Thomas & Chess, 1981).

When looking at teachers' perceptions of students' behavior in the classroom, it is important to consider how temperament of both the teacher and the student can influence attitudes. This interaction between temperaments can be related to the Goodness of Fit model developed by Thomas and Chess (1977), which helps to explain the relation between a person's environment and their temperament. When the "expectations and demands" of the environment match the individual's temperament, a "goodness of fit" occurs, but when these two areas do not work well together, a "poorness of fit" can occur,

causing disruptions to development and behaviors of the child (p. 11). In a classroom setting, the environment reflects the teacher's temperament, so goodness of fit can be determined based on the interaction of the teacher and student's temperament. A teacher mediates this relationship and can employ strategies to either change the temperament to meet environmental expectations or change the environment to meet the temperament.

The interaction between the child's temperament and the environment is displayed through their behaviors within the classroom. In their research on temperament, Thomas and Chess (1977) identified the aforementioned nine categories of temperament that are used to determine how to describe an individual's temperament based on their behaviors. As this study looks at introversion and extroversion in children, it is important to determine what categories of temperament can represent this type of behavior. Introversion would be characterized by low approach and adaptability and mild responsiveness and reaction. An extroverted child on the other hand, demonstrates more activity and reaction, with high approach and adaptability (Coplan & Arbeau, 2008; Coplan, Prakash, O'Neil, & Armer, 2004; Rimm-Kaufman & Kagan, 2005). This knowledge about behaviors associated with temperament will assist in determining how a match between introversion and extroversion in both teachers and students can affect how teachers respond to certain behaviors within their students.

Attribution Theory

Attribution theory looks at how individuals understand others' behaviors by examining presumed causes. Weiner (1985) studied the role of attributions in determining the causes of behaviors. Weiner identified three causal dimensions most commonly associated with outcomes of events and behaviors: locus, stability, and controllability.

Locus looks at the location of the cause, whether that is within the individual (internal) or centered in the environment (external). Ability and effort are considered internal, as the individual is able to control how they apply each to situations and behaviors. Task difficulty and luck are considered external because they are more dependent on environmental factors than the control of the individual. Stability refers to the likelihood that the cause of the behavior will result in the same outcome through multiple attempts. The stability is determined by considering the individuals ability to maintain the attribute over time and through events. If the attributes surrounding a behavior remain the same, then the outcomes of the behaviors are expected to remain consistent. Results determined through previous attempts or experiences within the same area are expected to recur within future events (Weiner, 1985). Similarly, if the conditions are perceived as unstable and likely to change, the observed outcome is not expected to repeat through multiple attempts or events. This instability can create uncertainty around the results of continued behavior, as the chances of success and failure cannot be determined from past experiences and events. Stable attributes often include ability and personality, while unstable attributes consist of luck and effort, as these vary with the environment and situation each time it is performed. The third causal dimension is controllability, which refers to an attribute's ability to be changed or altered by the individual (Weiner, 2000). Some traits can be controlled by the individual while others are innate or natural responses that cannot be changed and are therefore uncontrollable. Luck and aptitude for certain events are examples of uncontrollable attributes that individuals might consider causes of certain behaviors but cannot be increased or decreased based on the will of the individual.

Attribution theory is based on the ability to review perceived causes as to how they relate to responses, allowing evaluative feedback that can determine potential causes of certain behaviors and results of events within the environment and the individual. Two types of responses are labeled in analyzing causes; correct performances are considered successes and incorrect performances are failures (Korn, Rosenblau, Rodriguez Buritica, & Heekeren, 2016). These success and failures are used to determine whether the causes can benefit or hinder individual's future reactions or responses to stimuli. When considering the three causal dimensions of attributions in relation to success or failure, each consists of different combinations within each dimension. Success is often tied to high ability and hard work, internal, stable, and controllable attributes within an individual (Weiner 1985). This is frequently considered a "self-serving bias" as individuals attribute the success to themselves, focusing on their abilities and control, rather than random events in their environment (Chan & Wong, 2011). Conversely, individuals who are shy often display a "self-defeating bias" in which they relate positive response to external and less stable characteristics and negative responses to more internal, stable characteristics. They view success as something that they are unlikely to maintain despite their actions within certain situations. For most individuals, failure or the negative response, is tied to low ability and absence of trying, while attributes for failure are more likely to be identified as external, unstable and uncontrollable (Weiner, 1985).

Individuals associate attributes with certain behaviors as a way to determine the causes of those behaviors. When attributes are associated with behaviors they are often used to explain future behaviors, developing expectations of reactions and causes of

similar behaviors in the future. As attributions are used to determine causal characteristics to behaviors, the explanations determined by others through observations can affect their emotional response or reactions to the individual and expectations for success or failure (as cited in Chan & Wong, 2011). In other words, future behavior depends on how and what causes are evaluated in connection with the behavior (Korn et al., 2016). Attribution theory can be used to identify attributes that teachers associate with their students' behaviors. Teachers commonly identify a variety of causes related to the reaction and responses that students display in the classroom. Through considering the attributes of student behaviors, teachers are able to not only develop expectations as to how they will behave in the future, but also develop guidance strategies that are targeted at the cause of the behavior. This study will look at attributes that teachers associate with introverted and extroverted behavior within students based on the three causal dimensions, locus, stability, and controllability.

CHAPTER III

LITERATURE REVIEW

Temperament often falls into two broad categories, introversion or extroversion. U.S society values extroversion, as evidenced by the fact that being outgoing and assertive is often respected more in the professional world (Cain, 2012). This has also translated into the school system. Classroom environments promote the development of extroverted characteristics, while working to change behaviors of introverts to address risks associated with being a quiet student. Introverted students are less likely to display behavioral problems in the classroom, face increased negative consequences in social and academic environments, and are often labeled by teachers as less intelligent (Coplan et al., 2011). Research has looked at how teachers apply different guidance strategies, behavioral regulation, or socioemotional support, based on student temperament (Coplan & Armer, 2005; Rudasill et al., 2014), but has yet to consider how teacher temperament affects the types of guidance strategies used in response to introverted and extroverted students in their classroom. To consider how temperament influences both teachers and students, the relation between temperament and the environment must be understood.

Goodness of Fit

As previously described, Goodness of Fit is a mid-level theoretical model that looks at the relation between the environment and an individual's temperament. Through their research

on characteristics of temperament styles, Thomas and Chess (1977) developed the idea of goodness of fit, relating to consonance and dissonance experienced by the individual and the demands of their environment. When consonance occurs, the relationship between temperamental characteristics of the individual is compatible with the surrounding environment, resulting in "optimal development in a progressive direction" (p. 11). Conversely, dissonance results if the demands of the environment and the capacities and temperamental characteristics of the individual do not align, creating a poorness of fit. The development of this theory reflected their idea that temperament should not be considered independently, rather it is constantly interacting with environmental factors. This continuous interaction with environment produces response behaviors that, as the frequency of the interaction occurs, specific behavioral patterns are reinforced and can create new characteristics within the behavior. Thomas and Chess believed that "temperament can be equated to the term behavioral style," as temperament drives an individual's reactions to the environment around them (p. 9).

Considering the theory of goodness of fit within a classroom setting, the environment created in the classroom reflects the teacher's personality and teaching style, so goodness of fit is determined based on the interaction between the classroom and the child's temperament. The physical environment and teacher both interact with the child's temperament to form a 'fit' relationship, based on how well the child is able to meet the teacher's expectations. The classroom environment is often designed towards specific temperamental characteristics, most often extroversion (Cain, 2012; Coplan et al., 2011). Cain describes the average classroom environment as a place "dominated by group discussion," "where lessons are taught in large groups" (2012, p. 252-253). While this type of environment allows extroverted students more opportunities to work and interact with their peers, it provides little time for introverted students

to work independently or in small groups, where they work best. To achieve goodness of fit within a classroom, the teacher must create an environment that is able to accommodate a variety of temperamental characteristics.

Goodness of fit is not just present in the relationship between the classroom environment and the child's temperament, but is also determined by the combination of teacher and child temperament (Brown, 2003; De Schipper, Tavecchio, Van Ijzendoorn, & Van Zeijl, 2004). When looking at different temperament characteristics and students' interactions with their teachers, De Schipper et al. (2004) found that teachers of children age 2-5 who have high levels of openness were more available to their students, which was shown to help "easy-going children to adapt more fluently to the day care setting" (p. 268). Increased openness in teachers is correlated with increased trust within student-teacher relationships, causing children with difficult temperaments to feel less inhibited in expressing their emotions and feelings. They found that the 'fit' of the relationship did not depend solely on how available the teacher appeared towards students, but on the child's temperamental influences as well.

This relation between teacher and child temperament is also evident within common personality traits shared by both students and teachers. Middle school and high school teachers of gifted and talented students have been shown to share many of the same personality traits of the students that they teach (Mills, 2003). At the same time, these students were considered more similar to their gifted and talented teachers than to general education teachers. These model teachers often preferred teaching through more creative approaches and intuitive processing, teaching styles that correspond to the preferences of learners in their classroom. This illustrates how shared temperaments between teachers and students can result in increased instruction based on students' preferred learning styles and greater understanding of what causes their behaviors.

This match between teaching style and learning style often results in academic achievement for students and more positive attitudes from teachers (Brown, 2003; Mills, 2003). While the benefits of matching learning and teaching style have been discussed, it has been shown that this fit "alone does not guarantee greater learner achievement," but rather other temperamental and environmental factors must also be considered (Brown, 2003, p. 4). To achieve a good fit within the classroom, teachers must consider more than just how students learn but how they respond to a variety of factors within the classroom environment itself. The relation between a child and their classroom environment can affect the behaviors they exhibit in response to the type of fit that exists between temperaments.

Child Temperament Influences Child Behaviors

The interaction between the child's temperament and the environment is displayed through their behaviors within the classroom. Several of the temperamental qualities defined by Thomas and Chess (1977) help to describe behaviors exhibited by introverted and extroverted children, including approach or withdrawal, threshold of responsiveness, and adaptability. The child's high or low response within these areas is often used to determine their extroversion level and can be used to predict behavioral responses. It has been observed that both temperaments result in specific behaviors, as introverts display observant behaviors and extroverts display more externalizing behaviors (Coplan, Prakash, O'Neil, & Armer, 2004; Rimm-Kaufman & Kagan, 2005). Introverted students display reticent behaviors, behaviors that involve staying on the outskirts of play groups and watching other children rather than initiating action to join the group (Coplan et al., 2004). These students also showed increased staring, observing interactions through proximal play, like parallel play and solitary activities (Arbeau & Coplan, 2007). These activities are related to the appearance of shy behaviors within young children as they often have

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high avoidance or withdrawal from social situations, and have a low threshold for stimulation. Shyness and inhibition related to introversion have been linked to less prosocial behaviors and increased anxiety when faced with novel situations (Coplan et al., 2004).

Social disinterest is another area of introverted behavior, as it involves a preference for independent and less social activities, but is not a result of anxiety or fear. This behavior is a product of "both a disinterest in social contact as well as a desire for aloneness" (Coplan et al., 2004, p. 246). Children with social disinterest are expected to have "greater temperamental attention span and less negative reactivity," based on their aptitude for prolonged engagement on object-based activities (p. 246). Teachers frequently encourage this behavior within students as these characteristics result in increased persistence and problem-solving, which aligns with the teacher's expectations. While this reinforces acceptable behaviors in the classroom environment, this type of interaction can also exaggerate negative expressions of introversion as students adjust to new environments (Arbeau & Coplan, 2007). Similar to shy introverts, the nonsocial nature of social disinterest often results in more withdrawn behaviors and increased peer exclusion, as these children do not commonly seek out interactions with other students in the classroom (Coplan et al., 2004). Introverted children have higher rates of internalizing behaviors as they parallel the internal nature of their temperament style.

Extroverted students offer a natural comparison to the introverted behaviors previously discussed, as their temperaments fall on opposite ends of the spectrum. Extroversion is displayed by externalizing and prosocial behaviors (Coplan et al., 2011). These students demonstrate higher levels of sociability, engage in high approach behaviors, and experience fewer inhibitions compared to introverted students. In the classroom, they speak more freely with peers and teaches when in large group settings, volunteer more frequently, and approach

unfamiliar experiences and individuals in the classroom (Rimm-Kaufman & Kagan, 2005). The

environment provides an opportunity to display these temperamental characteristics, as "verbal

participation and social interaction is generally considered important components of classroom

learning," (Coplan et al., 2011, p. 941). The behaviors of extroverted or exuberant children have

been found to be related more to temperament compared to situational factors, and these

behaviors are easily observed across multiple settings. Because a child's temperament

determines, to a large extent, the types of behaviors that they display, teachers often base their

perceptions of behavior and development on the child's temperament.

Teacher Perceptions Influenced by Temperamental Characteristics of the Child

Introverted and extroverted students display different temperamental characteristics, to

which teachers develop perceptions and expectations for their social and academic development.

A teacher's belief about a student's ability to perform successfully within the school setting, both

socially and academically, often develops based on their feelings toward certain temperamental

characteristics. Arbeau and Coplan (2007) performed a study looking at how kindergarten

teachers perceive hypothetical shy, unsociable, aggressive, and prosocial kindergarten students

based on their temperamental characteristics. They found that introverted temperaments, shyness

and unsociable, are viewed by teachers as less intentional than the extroverted temperaments,

aggressive and prosocial. This could show a greater understanding of the underlying cause of

shyness, a desire to interact with peers, while also facing anxiety and fears concerning judgment

from those peers. While teachers viewed these traits more personality based, they expressed

greater concern for the cost that these behaviors have for social competency (Arbeau & Coplan,

2007). In a separate study, Korem (2016) looked specifically at the perceptions educators at

different levels and positions within the school system have of shyness. Teachers who view

introversion in a positive light were more likely to value introverted attributes, linking them to "high level thinking,… quality, pleasantness, and outstanding abilities" (p. 140). Conversely, teachers with negative perceptions of introversion view it solely through behaviors and did not mention internal aspects of temperament. These teachers would frequently use negative language in explaining shy students' behaviors and referenced future consequences in regard to the development of relationships. Future social development for introverted students was predicted to be lower in both frequency and quality of relationships, and in size of social network (Korem, 2016).

In general, shyness does not fit with teachers' expectations (Coplan et al., 2011; Rubin, Coplan, Bowker, & Menzer, 2011), and may lead to negative development based on teacher perceptions of these behaviors within their own classrooms. As discussed previously, extroverted behaviors that include more prosocial traits are often considered developmental norms for children and influence the expectations a teacher has for their students. Many introverted students experience deficits within the areas of social competence and "interpersonal problem-solving skills," which they often relate to internal causes and personal failures (Rubin et al., 2011, p. 21). So when teachers express negative perceptions of introverted students, they are adding to the negative perceptions students have already developed concerning their own temperamental characteristics.

While temperament can influence teachers' perceptions of student abilities, gender has been shown to act as a moderator between shyness and teacher-child relationships (Doey, Coplan, & Kingbury, 2013; Rudasill & Kalutsjaya, 2014). In a study conducted to look at elementary teachers' views related to gender differences within shy students, Akseer, Bosacki, Rose-Krasnor, and Coplan, (2014) found that shyness within girls is generally more accepted and

encouraged by teachers, whereas shyness in boys is often considered less socially acceptable. Teachers' expectations of shy students are influenced if they perceive shyness to be a feminine trait, and therefore a more acceptable behavior for girls. Over half of the elementary teachers involved in the study mentioned that gendered roles impact their expectations of shy students, and many went on to state that they expect boys to be more outgoing and aggressive than girls.

This relation between gender and perceptions of shy students within the classroom was also shown in relation to teacher-student relationships (Rudasill & Kalutsjaya, 2014). Gender appears to moderate the relationship between shyness and closeness of teacher-student relationships, as boys with higher levels of introversion had the most distant relationships with their teachers. Teachers recognize the importance of forming relationships with shy students to develop a safe space, but recognize that the form of that relationship looks different between boy and girls (Akseer et al., 2014; Doey et al., 2013). With an increase in research looking at shy students, teacher education programs are educating future teachers on the effects that gender stereotypes have on their perceptions of shy students (Doey et al., 2013). Despite gender differences in teacher expectations of behaviors, teachers perceive both boys and girls to experience some form of academic cost associated with introversion.

Introverted behaviors affect teachers' perceptions of intelligence (Coplan et al., 2011; Hughes & Coplan, 2010). For extroverted behaviors, intelligence and poor academic success is associated with social factors, primarily their behaviors in the classroom, but "for shy children a lack of intelligence is inferred" (Coplan et al., 2011, p. 947). The difference between temperaments and perceived intelligence is observable through achievement reports of students from teachers and standardized assessment. Hughes and Coplan (2010) developed a study in which they were interested in determining the link between academic achievement and shyness

in fourth through sixth grade students. When looking at teacher-rated academic skills, introversion correlated with lower scores, but when compared with standardized test scores, shyness was not related to student scores. This shows that perceived intelligence and shyness may be strongly influenced by teacher perceptions of intelligence based on student performance and engagement in the classroom. Temperamental characteristics associated with introversion, such as inhibition and communication apprehension, impact students' abilities to engage in instruction and display their knowledge through typical testing situations (Crozier & Hostettler, 2003; Hughes & Coplan, 2010). Overall, teachers' perceptions of students' intelligence were not determined by test scores, but through temperamental attributes associated with their behaviors and engagement. These findings suggest that as temperament guides teacher perceptions of ability, these same understandings can assist teachers in implementing effective guidance strategies specific to temperament behaviors.

Teacher Perceptions and Behavioral Strategies

Perceptions that teachers have based on student temperament have been shown to determine the type of guidance strategies teachers use to address behaviors. Research has shown that teachers use specific behavioral intervention**s** based on how they perceive the behavior and its effects on the student. Introversion is associated with decreased social competence, often perceived by teachers as a deficit in language and communication skills (Arbeau & Coplan, 2007; Coplan & Arbeau, 2008; Coplan & Armer, 2005). To address this, teachers often employ strategies targeted at developing expressive vocabulary skills, which can protect against potential negative effects of introversion. Coplan and Armer (2005) found in their study looking at expressive language skills within preschool students, that better language skills are associated with increased confidence and social competency. At the same time, higher vocabulary skills

were shown to reduce teachers' negative perceptions of competence. Vocabulary skills and expressive vocabulary are positively associated with teachers' perceptions of more prosocial behaviors, and less need for additional assistance with peers and academics (Coplan & Armer, 2005).

Teachers perceive shy students' language use through several different lenses and respond differently to those behaviors based on their perceived causes (Coplan & Rudasill, 2016). As introversion is defined by talking less, teachers identify that these students have less opportunity to practice language skills, as students are concerned about evaluation from peers and teachers. Similarly, as discussed previously concerning academic knowledge, students may have already acquired the needed skills but assessment methods may exaggerate the feeling of being evaluated. In response, teachers provide additional opportunities to practice these behaviors within non-threatening environments, such as working in small groups or one-on-one, to build confidence in communication with the teacher and peers (Coplan & Rudasill, 2016). Teachers' perceptions of the limited social competency of introverted students guide the implementation of strategies designed to promote protective factors.

Teachers with positive and negative views of temperamental characteristics place different values on the need to intervene in response to displayed behaviors (Korem, 2016). Those with a positive view of shy behaviors focus on the internal aspect of temperament, the actions guided by the child, and based their interventions accordingly. Generally, these teachers did not see the need for intervention as they view the behaviors as "the child's choice," "it's a passing phase," or "why would you interfere to change the child?" (Korem, 2016, p. 140). Because they view introversion as a stable temperamental trait, an intervention would have no result and could cause the child to feel more uncomfortable within the classroom. On the other

hand, teachers who perceive introversion as having negative effects on the child often encourage intervention to help the child develop similar behaviors to their peers and to meet the expectations of their environment.

The use of different interventions on introverted and extroverted students are often in response to a teacher's perceived ability to change temperament to assist the child in meeting class expectations. While many teachers understand that temperament and related behavioral characteristics are stable over the course of development, teachers also believe that these behaviors have some level of controllability that allows them to manipulate the display of behaviors within their classroom (Coplan et al., 2011). Several studies have shown this contradictory finding, as teachers attribute behaviors related to extroversion and introversion to stable personality and internal factors, while at the same time implementing strategies to alter these behaviors (Arbeau & Coplan, 2007; Coplan et al., 2011). While teacher perceptions play a role in determining the types of guidance strategies used with introverted and extroverted students, the behaviors children display related to their temperament can also be a determining factor.

Guidance Strategies Used by Teachers Are Determined by Child Behaviors

Child behaviors influence the guidance strategies that teachers' use, as teachers have been shown to tailor their response to a behavior based on the actions that the child performs. Different strategies employed by the teacher have a greater effect on certain behaviors than they have on others. Teachers frequently utilize control behaviors in response to introverted behaviors in students (Evans, 1992; Roorda, Koomen, Thijs, & Oort, 2013). These behaviors include frequent questioning to elicit more verbal participation and responses (Evans, 1992). A positive correlation has been observed between the uses of dominant strategies with children who have

higher levels of introversion (Roorda et al., 2013). This practice has not been shown to improve interactions between teacher and student, but exaggerate the behaviors the strategy is working to reduce. In response to this, Roorda et al. (2013) suggest implementing more complementary interaction styles between kindergarten teachers and students. If teachers wish to encourage more dominant behaviors from their inhibited students, being less dominant themselves creates a more reciprocal environment where students face less social inhibition. Increasing complementary behaviors toward introverted students acts as a type of "positive training effect," as teachers more frequently respond to friendly interaction initiated by these students with corresponding warmth to encourage future development (Roorda et al., 2013, p. 182).

Teachers often gauge their guidance with students on how the students sustain interactions and contribute to conversations. High control conversations are characterized by frequent questioning from the teacher, and minimal responses from the student, which then encourages more questions from the teacher to maintain the conversation (Evans, 1992). When low control is employed within these conversations, teachers acknowledge the student's contribution by relating it to a personal experience or rewording it back to the student to elicit further response. This style is often difficult for teachers to maintain throughout conversations, and they commonly revert back to questioning when the student provides minimal or no contribution to the conversation. Because of this, teachers often describe interactions with introverted students as "short, quiet, infrequent, one-sided, and strained," and voice concern about the quality of the student's interactions with others (Swenson, 2016, p. 43). With increased use of complementary and low control interactions, students are shown to initiate more quality conversations with teachers. Change in control behaviors exhibited by the teacher in response to introverted behaviors can increase the display of verbal and social participation in the classroom.

Strategies employed by teachers related to power and control can encourage the development of external behaviors, but teachers must also address the internal behaviors most commonly associated with introversion. Socioemotional strategies are utilized by teachers to target these internal behaviors through modeling appropriate behaviors, providing verbal encouragement, developing a safe environment, and involving other students (Thijs, Koomen, & Van Der Leij, 2006). The more visible a behavior is, the more behavioral regulation will be used. This explains why teachers report more frequent use of these socioemotional strategies for introverted students than extroverted students. Socioemotional strategies provide an environment where introverted students are able to practice social interactions, feel safe, and receive the assistance they need to develop their interpersonal skills and self-esteem with minimal teacher direction (Thijs et al., 2006). Through acknowledging internal factors related to introverted behaviors, teachers are able to develop protective factors that can shield against negative outcomes. These protective factors include higher quality relationships with teachers and peers, increased verbal skills, and a sensitive environment (Coplan & Arbeau, 2008). Each of these protective factors can be developed through the use of socioemotional and direct strategies as teachers identify the needs of students based on their behaviors.

With many of these behavioral strategies developed through interactions between teachers and students, the frequency and type of interaction can be determined based on the child's behaviors. Introverted students are less likely to initiate interactions with their teachers, resulting in more distant relationships (Rudasill, 2011; Rudasill & Rimm-Kaufman, 2009). As these interactions are often the basis for building a relationship, an introverted student's hesitant nature often deters them from making the first move, as "approaching the teacher involves uncertainty" (p. 116). Coplan and Prakash (2003) researched the relationship between receivers

and initiators in preschool teacher-student relationships. The group entitled "teacher-receivers" were more likely to receive attention from the teacher rather than to seek it out themselves. "Teacher-initiators" were more likely to solicit responses and interactions from the teacher, and displayed more prosocial behaviors. While these preschool students initiated more contact with teachers, the teacher-receivers were the "most frequent targets of teacher-directed contact" and often interacted with them more often than more prosocial students (Coplan & Prakash, 2003, p. 152). Students provide teachers with both behavioral and emotional cues to help them determine the best strategy to address the child's needs (Coplan & Prakash, 2003; Rudasill, 2011). After considering child temperament and corresponding behaviors that influence the types of behavioral strategies employed by teachers, it is important to consider how teacher temperament could affect how teachers respond to temperamental characteristics.

Teacher Temperament and Interactions with Students

While many research studies have looked at child temperament and the responses teachers have to introvert versus extrovert behavior, very few have considered the mediating role of teacher temperament in how teachers respond to students. Goodness of Fit theory explains that the influences of temperament on the environment of individuals are reciprocal (Thomas & Chess, 1977), so considering how student temperament influences teachers' responses to their behaviors, teacher temperament would be expected to influence these reactions. Teacher personality has been considered in connection to teaching styles, by looking at prevalence of certain traits and development of whole class relationships (Jong et al., 2013; Rushton, Morgan, & Richard, 2007). Several studies support this statement through findings that suggest that extroverted teachers, with higher feeling, openness, and agreeableness were more successful in developing a student-centered style that promotes interaction and collaboration (Rushton et al.,

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2007; Wadlington & Wadlington, 2011). Others argue that personality for both students and teachers play a different role within the classroom environment than other social environments (Jong et al., 2013).

When considering how teacher personality traits influence teaching styles, few researchers have studied how these traits cause different responses to introverted or extroverted students. Oren and Jones' (2009) study of preschool child temperament and teacher-child interactions produced several observations of a correlation between child temperament and teacher responses. They stated that many teachers are affected by the temperaments of their students without realizing it, which lead to differential treatment based on temperament. While this was not an expected result within their study, they observed that interactions between students and teachers struggled when temperaments were different. Additional research is needed to look more directly at this finding to determine if certain teachers are better at responding to different temperamental characteristics and how that relates to their own temperament (Coplan et al., 2011; Jong et al., 2013; Oren & Jones, 2009). Research has yet to consider the influence that teacher temperament has on the types of behavioral strategies teachers employ in relation to the students' temperament.

Current Study: Research Questions and Hypothesis

The current study examined the gaps in research through investigating the role that teacher temperament plays in the choice of guidance strategies teachers implement with introverted and extroverted students within their classroom. This study looked at how teachers respond to hypothetical introverted, extroverted, and average students through behavioral strategies and their perceptions of these temperaments. A comparison was made between teachers' shyness rating and their likelihood in employing behavioral strategies, specifically

behavioral regulation and socioemotional support. It was hypothesized that when teacher temperament matches that of the child, the teacher would have more positive perceptions of that temperament. Conversely, when temperaments do not match, teachers would have more negative perceptions or attributes associated with the described behavior. It was also hypothesized that extroverted teachers would respond with behavioral regulation more frequently than introverted teachers and that introverted teachers will use more socioemotional strategies.

Given the research to date, the current study proposes the following research questions and hypotheses:

1. Do teachers utilize different guidance strategies with introverted students than extroverted students?

   Hypothesis 1. Teachers will use different guidance strategies for introverted students than are used with extroverted students.

2. Does a teacher's introversion or extroversion predict their use of certain guidance strategies with students who are introverted or extroverted?

   Hypothesis 2a. Introverted teachers will use socioemotional support more frequently than extroverted teachers in response to student behaviors.

   Hypothesis 2b. Extroverted teachers will use behavior regulation more frequently than introverted teachers in response to student behaviors.

3. What do teachers attribute to the causes of introverted and extroverted behaviors?

   Hypothesis 3a. Teachers will attribute introverted behaviors with internal, stable, and uncontrollable factors.

Hypothesis 3b. Teachers will attribute extroverted behaviors with external, stable, and

controllable factors.

CHAPTER IV

METHODOLOGY

Participants

      Recruitment for early childhood teachers took place through early childhood education professional organizations in Oklahoma and through the Facebook pages of both researchers to use snowball sampling to collect a convenience sample of early childhood educators. These organizations included Early Childhood Association of Oklahoma (ECAO) and Tulsa Early Childhood Association (TECA), which have established communication channels to teachers in Oklahoma. These organizations were contacted and asked to advertise the study through announcements on their respective Facebook pages to gather a convenience sample of educators. Early childhood teachers in the Enid were also contacted by email and received the flyer with the link to the questionnaire. Teachers who were interested and fit the study requirements were directed to a link with further information about the study and the questionnaire. The survey received 114 responses; several participants did not answer questions past the demographic information (n= 14), so their responses were discarded, leaving 100 participants. All of the participants were female and the majority (86%) were Caucasian. All participants taught in early childhood grades (Pre-K- third grade), with the majority teaching in Pre-Kindergarten and Kindergarten (56%). Over half of the participants

reported a Bachelor's degree (61%) as their highest degree and 30% reported having a

Master's degree. Sixty percent of participants have worked in early childhood grades for

0-5 years, with 8% having 21 or more years of experience. Overall, the participants

represented a range of school settings, urban, rural, and suburban. Complete demographic

information found in Table 1.

Procedure

The professional organizations that participated in the study were provided with

an email and flyer that offered a description of the procedure along with a Qualtrics link

to the study questionnaire. Both researchers posted a flyer along with a link to the

questionnaire on their respective Facebook pages which was shared with other teachers

and professionals. The questionnaire took around fifteen minutes to complete. Teachers

who were interested in participating and met the qualifications first completed the

Revised Cheek and Buss Shyness Scale (RCBS) to determine their level of extroversion

(temperament), and to classify the participant as either introverted or extroverted. They

then were given three brief vignettes that described an introverted student, an extroverted

student, and an average student. They then completed a Teacher Pedagogical Practice

Questionnaire (TPPQ) for each of the vignettes as to what types of guidance strategies

they would employ with that child's temperament. The results from the TPPQs were first

divided into the teachers' extroversion category and then separated into each of the three

types of children described in the vignettes. The responses from each of the TPPQs are

compared to the other responses within that extroversion level to identify significant

similarities or differences between responses. The responses within each teacher

temperament, extroverted or introverted, are compared to determine significant

differences in the types of guidance strategies different teacher temperaments used to

address behaviors associated with student temperament. Demographic information including gender, age, race, grade they teach, education level, and years of teaching experience overall and within early childhood grades, along with whether their school is located in an urban, rural, or suburban area were collected from each participant.

Measures

   Revised Cheek and Buss Shyness Scale. The Revised Cheek and Buss Shyness Scale (RCBS; Cheek, 1983) is a self-report questionnaire used to determine shyness levels in teachers. While there are several revisions of the original nine item scale, the 13-item version is used within this study as it offers slightly broader range, but maintains similar, if not better, reliability and validity scores (Leary, 1983). The RCBS uses statements to measure how extroverted or introverted teachers identify themselves. The items include sentences written in first person that describe typical introverted and extroverted responses to situations. Items on the questionnaire include phrases such as, "I do not find it hard to talk to strangers," "I am often uncomfortable at parties and other social functions," and "When in a group of people, I have trouble thinking of the right things to talk about" (Cheek, 1983). Using a 5-point Likert scale, teachers rate how characteristic each statement represents their feelings or behaviors. Ranging from 1-5, a rating of a '1' represents something very uncharacteristic or untrue, while '5' represents something very characteristic and true. Each score provided by the teacher is added together, with the scores for items 3, 6, 9 and 12 being reversed before being recoded, to determine a total shyness score. Scores range from 13, representing the lowest level of shyness (extroversion), to 65, the highest level of shyness (introversion) (Leary, 1983). Thirty-nine is considered the cutoff score, with anyone scoring over 39 considered introverted (Azizmohammadi, 2013; Chu, 2008). The participants were divided into two

groups: those who score above 39 as introverts and those who score below 39 as extroverted.

The inter-item reliability of the RCBS was found to have a Cronbach's alpha of .90, and an average inter-item correlation of .39 (Cheek & Briggs, 1990; Leary, 2013). When compared to other measures of shyness, the RCBS was shown to have "moderate-strong correlations" within themes related to introversion (Hopko, Stowell, Jones, Armento, & Cheek, 2005).

Teacher Pedagogical Practice Questionnaire. The Teacher Pedagogical Practice Questionnaire (TPPQ) is a 14-item questionnaire that measures the likelihood that a teacher will employ different guidance strategies on a student (Thijs, Koomen, & Van Der Leij, 2006). The questionnaire items are divided into two different practices that teachers employ; six of the items refer to behavior regulation responses, five items refer to socioemotional support responses, and the remaining three items could reflect both control and support. Each item is stated in the first person as what the teacher would do in response to the student's behavior. Sample behavior regulation items include, "I set clear limits to this child's behavior" and "I speak individually to this child about his/her behavior." Sample socioemotional support items include, "I encourage this child to play with other children" and "I intervene if this child feels ill at ease."

The TPPQ includes 14 items to which the teacher responds to the statement by rating how likely they are to do as the statement describes. The score for each item is determined through a Likert-type scale, ranging from 1 (no, certainty not) to 5 (yes, certainly). Within this study, the teacher responded to the statements based on vignettes that describe introverted, extroverted, and average students, rather than selecting students

from their classroom. While not original to the TPPQ, vignettes are used to provide participants with a common example of the behavior that they rank in answering the TPPQ. The vignettes are revised based on similar vignettes that describe introverted, extroverted, and shy children to work with the current study (Arbeau & Coplan, 2007; Coplan, Hughes, Bosacki, & Rose-Krasnor, 2011). Scores are determined through adding the items within each component together. Each participant has a sum score determined for both of the components, behavior regulation and socioemotional support, for each of the child vignettes, introverted, extroverted, and average. Scores within behavioral regulation can range from 6-45, while socioemotional scores can range from 5- 40. Both scores for a vignette were compared to each other to determine which of the guidance strategies the participant is most likely to utilize for the student described, and this was repeated for each of the three vignettes to see how the response vary based on the type of student described. The teachers were grouped based on which strategy has the higher score, either in behavioral regulation or socioemotional strategies, for each of the three vignettes.

Internal reliability for each of the components in the TPPQ was assessed using inter-item reliability. The six items for behavior regulation had an average Cronbach's alpha score of .84 over four separate data sets (Thijs et al., 2006). The five items for socioemotional support had an average Cronbach's alpha score of .79 over four separate data sets. Items were placed within either behavior regulation or socioemotional support if they "consistently loaded over .5 on the same component, but not on the other component in all datasets" (p. 642). Within the original study performed by Thijs et al. (2006), validity was determined through comparing responses from teacher interviews to

the responses provided by the measure. It was determined that there was significant correlation between each of the reported guidance strategies that teachers discussed in an interview compared to their responses to the TPPQ.

Teacher Attribution of Introverted and Extroverted Behaviors. This rating scale is designed to focus on the three prominent causal dimensions associated with attributions: locus, stability, and controllability (Weiner, 1985). For each vignette, in addition to the questions provided through the TPPQ, this attribution questionnaire allows each teacher to rate the amount that they attribute each area of cause to the behavior described in the vignette. Teachers were presented with two statements concerning each casual attribute. For example, within locus, the teacher rated how much they believe or perceive the behavior on a scale that ranges from the behavior is associated with personality to the behavior is linked to environmental factors. The other two areas of stability and controllability are also formatted to rank the behavior on a continuum that represents each dimension. For stability, the scale ranges from whether the behavior is situational to stable over time, and for controllability, the behavior cannot be controlled by the child to the behavior can be controlled by the child. Each of these three areas represent primary causal explanations as determined through Attribution Theory. This questionnaire illustrates the types of causes that teachers associate with introverted and extroverted behavior in students. The scores obtained through this questionnaire were divided into the three areas of student temperament represented in the vignette.

Plan of Analysis

Preliminary analyses and descriptive statistics were completed in SPSS prior to hypothesis testing. Initially, the RCBS was used to divide the participants into the two groups, introverted and extroverted, based on the scores that they receive. Inferential

statistics were then performed to analyze teacher temperament compared with TPPQ behavioral regulation and socioemotional supports sum scores for each of the student temperaments to test the hypotheses of the study. In addition, the demographic information collected was used to determine overall characteristics of the study participants.

Hypothesis 1. Do teachers utilize different guidance strategies with introverted students than extroverted students?

Paired samples t-tests were conducted to determine if there is a significant association between child temperament (introversion, average, or extroversion) and the type of guidance strategy used by teachers, either behavior regulation or socioemotional support. Composite variables were created for the two strategies represented in the TPPQ, the sum of the behavioral regulation items and the sum of the socioemotional support items. This was done within each student temperament.

Hypothesis 2. Does a teacher's introversion or extroversion predict their use of certain guidance strategies with students who are introverted or extroverted?

A one-way ANOVA was conducted to determine if there is a significant difference in the guidance strategies used in response to each student temperament based on the teachers' temperament. Using the scores from the RCBS, teachers' introversion and extroversion was recoded to zero and one, respectively, to provide a comparison group to the guidance strategies used, as reported in the TPPQs. The composite variables created for each strategy within each temperament, as described in hypothesis one, were used.

Hypothesis 3. What do teachers attribute to the causes of introverted and extroverted behaviors?

Multiple regression was used to determine if there is an association between student temperament (introversion, average, and extroversion) and what teachers attribute (locus, stability, and controllability) to the behavior described in the vignettes. The teacher attribution scales for each student temperament were used to see if they predicted which guidance strategy was used more frequently in response to student temperament.

CHAPTER V

RESULTS

The purpose of the present research was to determine the effects of teacher

temperament on the types of guidance strategies that teachers used in response to student

introverted, average, and extroverted behavior. This research sought to identify

differences between introverted and extroverted teachers in how they respond to a

described student's temperament. The findings are described in detail in the following

chapter.

Student Temperament and Guidance Strategies

A paired samples t-test was conducted to compare teachers' overall use of

behavioral regulation or socioemotional support strategies, as defined through sum scores

of each area in the TPPQ for an introverted, extroverted, and average student. As shown

in Table 2, participants used behavioral regulation strategies significantly more than

socioemotional strategies for all temperament styles: introverted $t(89) = 29.190$; $p < .001$,

extroverted $t(71) = 38.381$; $p < .00$, and average $t(80) = 17.150$; $p < .001$. When the

introverted and extroverted TPPQ scores were compared directly, there is a significant

relationship between extroversion and behavioral regulation, $t(70) = -7.766$; $p < .001$, and

introversion and socioemotional supports, $t(70) = 4.530$; $p < .001$ (Table 3). Taken

together, these results indicate that teachers more frequently selected behavioral

regulation strategies for the extroverted student and more socioemotional supports for the

introverted students, but overall, still selected behavioral regulation strategies

significantly more often.

Teacher Temperament and Differences in Guidance Strategies

A One-Way Analysis of Variance (ANOVA) was used to determine if there was a

significant relationship between teachers' temperament and the type of guidance strategy

used in response to the described student temperament. Tables 4, 5, and 6, show the

ANOVAs conducted for introverted, average, and extroverted student temperaments,

respectively. There was no significant difference found in the guidance strategies used by

teachers when considering their introversion and extroversion. These results indicated

that teacher introversion or extroversion did not have an effect on strategies used in

response to introverted, average, or extroverted students.

Attribution of Behaviors and Student Temperament

Multiple regression was conducted to determine if there was a significant

relationship between selected attributions and student temperament. Locus, stability, and

control were used to predict the use of behavioral regulation or socioemotional support

within each student temperament type. As seen in Tables 7 and 8, there was no

significant relationship between the attributions and the use of behavioral regulation or

socioemotional support with extroverted students. Similar results were also found for the

average temperament student (see Tables 11 and 12). For the introverted student, Table 9

shows a significant relationship between locus and the use of behavioral regulation, β=

.391, $t(83) = 3.831$, p < .001. These results suggest that teachers used behavioral

regulation when they perceived the introverted behavior as more internal to the student,

based on their personality rather than the environment. This relationship was not present

for socioemotional supports and no significant relationship was found (see Table 10).

CHAPTER VI

DISCUSSION

The purpose of this research study was to look at the relationship between teacher temperament and the type of guidance strategies teachers' use in response to student temperament. Through teacher surveys and vignettes, this study examined the influence of temperament from both teachers and students on how teachers respond to typical introverted, average, and extroverted behaviors within the classroom. The previous section analyzed the results of the research and the following section will further discuss the findings and implications of this study.

Use of Guidance Strategies Influenced by Student Temperament

The first hypothesis looked at the relationship between the guidance strategies teachers use and student temperament. It was hypothesized that teachers would use different strategies with students who were extroverted than they did with introverted students, but the results from the Teacher Pedagogical Practice Questionnaire (TPPQ) indicated that the teachers in this study were more likely to use the same guidance strategy, behavioral regulation compared to socioemotional supports, for all student temperament types. Behavioral regulation includes control strategies that involve "monitoring, directing and regulating," while socioemotional supports involved targeting internal behaviors through modeling, encouraging, and changing the environment in

response to student behavior (Thijs, Koomen, & Van Der Leij, 2006. p. 636). The increased use of behavioral regulation suggests that these strategies may provide a more direct and immediate change of student behavior, as they can be applied as the behavior is being observed. Socioemotional support requires planning, observation, and mindfulness from teachers to consider how their actions now can positively affect later behaviors, increasing the time between the implementation of the strategy and changing behaviors. Because of this teachers might be more familiar with behavioral regulation strategies, using them more frequently in their classrooms as they are more comfortable with those methods and know that they will allow for immediate behavior change. While the results show that there is no significant relationship between student temperament and the type of guidance strategies teachers use, this finding in itself is interesting. It suggests that teachers either do not consider the temperament of students when choosing guidance strategies or that many teachers feel more comfortable or knowledgeable with behavioral regulation strategies than they do with socioemotional supports regardless of student temperament.

While these results could suggest that teachers might view introversion and extroversion similarly, both represent behaviors that deviate from general expectations within the classroom. When introversion and extroversion are compared directly there is a significant difference in the guidance strategies used. When the introverted and extroverted behavioral regulation items from the TPPQ are compared directly, teachers reported using behavioral regulation more often with the extroverted student over the introverted student. Similarly with socioemotional support items, comparing introverted and extroverted resulted in a greater use of these strategies with the introverted student.

These results coincide with the hypothesized findings for the first hypothesis, but the fact that they were only observed when the two temperament and the two guidance strategies were compared directly is interesting. This could be related to controlling the guidance strategy and looking at whether it was more prevalent for one temperament over the other. This finding corresponds to previous research as it suggests that different guidance strategies are used in response to behaviors characteristic to different temperaments, like using strategies that complement student temperament or are developed through interactions between the teacher and student (Roorda et al., 2013; Rudasill, 2011). Socioemotional supports provide greater attention to building language skills and protective factors that could reduce negative risks commonly associated with introversion (Coplan & Arbeau, 2008; Coplan & Armer, 2005), while behavioral regulation addresses the external and visible behaviors associated with extroverted students as it provides greater control for the teacher (Thijs et al., 2006). These results further support the findings from previous studies.

Guidance Strategies and Teacher Temperament

The second hypothesis expanded on the first, looking at the relationship between teacher temperament and the use of certain guidance strategies in response to student temperament. It was hypothesized that introverted teachers would use more socioemotional supports than their extroverted counterparts, while extroverted teachers would use more behavioral regulation than introverted teachers. No significant difference was observed between teacher introversion and extroversion and the strategies used in response to introverted, average, and extroverted students. These results could suggest that the teachers in this study are capable of recognizing personal biases, related to their

own temperament, which could influence how they respond or react to temperamental behaviors within students. These findings could also indicate that teachers are comfortable using both strategies in response to their students, choosing guidance strategies based on the students temperament or perceived need over their personal preferences or beliefs associated with their introversion or extroversion. While little research has been done looking at how teacher temperament influences how teachers respond to temperamental behaviors from students, the findings from this study encourage future research to continue to look at the relationship between student and teacher temperament and their interactions in the classroom (Coplan et al., 2011; Oren & Jones, 2009).

Teacher Attribution of Student Temperaments

The third and final hypothesis looked at what factors teachers attribute to the introverted, average, and extroverted behaviors in students. This study focused on the attributes associated with locus, stability, and controllability. For both extroverted and average temperaments, there was no significance in what teachers attributed to the behaviors and guidance strategies. For the introverted student, the use of socioemotional support and the attributes offered no significant results, while the use of behavioral regulation was significant only within the locus of the behavior. When teachers perceived the introverted behavior as more internal, based on personality, more behavioral regulation was used. These findings present an interesting relationship, while teachers are more likely to implement guidance strategies that work to directly change the behavior, they view introversion as a personality based trait, one that could not be changed or altered based on external influences. This suggests that the teachers in this study may

view their own level of controllability over behaviors associated with introversion. Behavioral regulation strategies may be used more often on these personality-based behaviors related to introversion, as teachers could believe these behaviors could result in more negative outcomes in the future if they persist. This questions how teachers view introverted, average, and extroverted behaviors, whether positively or negatively. Previous research has also produced similar results, as teachers attributed stable personality and internal factors to introverted behaviors and also reported implementing strategies to alter those observed behaviors (Arbeau & Coplan, 2007; Coplan et al., 2011). A study performed by Korem (2016) also looked at teacher attribution, but included positive and negative views of introversion, and found that negative views of introverted behaviors increased intervention practices to normalize the behavior. Teachers with positive views of introversion did not see the benefit of intervention as they saw temperament as stable and personality driven. The current study further supports the results determined through previous studies.

Limitations

There are a few limitations of this study, beginning with collecting a convenience sample of early childhood teachers. The flyers were sent out to teachers through the Tulsa Early Childhood Association Facebook page, so members and other teachers would have to have access to the Facebook page. The flyer was also distributed through the Facebook pages of both researchers, which then was shared to reach other early childhood teachers through a snowball collection method. This method allowed the survey to be distributed to a larger amount of people in a short amount of time, but also influenced the truly random nature of the participant collection, which could have influenced results. The

collection method also impacted the ability to obtain an equal proportion of introverted and extroverted teacher replies. Within the 100 participants in the study, 67 scored as introverted and 33 scored as extroverted on the Revised Cheek and Buss Shyness Scale. While there was no significant relationship found in teacher temperament and guidance strategy responses, it would be interesting to conduct the test with equal sample sizes of introverted and extroverted participants to see if a significant result could be found.

Another limitation concerning survey responses is that within the 114 participants, 14 had to be excluded from the study as they did not complete questions past the initial demographics. Other participants ended the survey early having not completed all questions. This occurred most frequently at the start of a new temperament vignette, which resulted in different sample sizes for each of the temperament types. The survey took an average of 15 minutes to complete, so this loss in participants could be related to not having enough time to complete the survey or leaving the survey early. This discrepancy in the number of responses could have influenced the findings of the study.

The self-reported nature of the Revised Cheek and Buss Shyness scale could have influenced whether participants scored as introverted or extroverted. The survey relies on personal feelings about how participants would feel within certain situations. Additionally, the items on the survey related to the social aspect or involvement associated with introverted behavior, but does not cover other behaviors or preferences associated with introversion or extroversion. Because of this, the survey identifies a general, broad characteristic of introversion, so individuals who may not consider themselves introverted or extroverted within other areas, are classified simply through their responses to social situations.

Additionally, the vignettes that were used to describe the behaviors of each of the temperament styles were created off common behaviors associated with introverted, extroverted, and typical students. Vignettes used in previous studies were used as a model to create vignettes that would closely resemble the temperament styles. Using the vignettes allowed the survey to be completed by a variety of teachers from different places, but it required teachers to report hypothetical responses to hypothetical situations rather than providing more authentic responses if we were to identify actual students in their classroom that represented each of the temperament styles.

Future Directions and Implications

Future research must continue to look at factors that influence the relationship between teacher and student temperament and their interactions in the classroom. Looking at what teachers attribute to introverted and extroverted behaviors will help to further determine how teachers view different temperaments, positively or negatively, and possible influences this can have on how teachers react to specific temperamental behaviors. It would be interesting to perform a similar study with teachers and identified introverted and extroverted students in their classroom, based on guidance strategies they currently use with those children in the classroom. Rather than relying on hypothetical students, this method would consider actual students within the teacher's class and allow the researcher a better view of the interactions between the teacher and the student. While this study only considered behavioral regulation and socioemotional supports, further examination of the relationship between temperament and guidance strategies would allow for identification of strategies that would work with temperamental behaviors rather than against. This could also provide information about which types of strategies

work best in response to introverted and extroverted behaviors, responding to student behaviors in a way that works with their temperament to benefit the student and the teacher.

Implications of the current study involve teacher education and professional development. The findings indicate that many teachers commonly rely on one type of guidance strategy, whether that is because they see it is the most effective method or they are most comfortable and familiar with that strategy. Previous research has shown that different guidance strategies can have different effects on student behaviors, and teachers need to be aware of how the strategies they use interact with the temperament of the students in their classroom. This study found that many of the teachers surveyed were very familiar with behavioral regulation strategies and their effects on student behavior as they were used more often and broadly in response to student behavior. Although direct comparisons provided evidence that teachers did use more socioemotional supports with introverted students, further educating teachers about guidance strategies that could support students' temperamental differences while addressing behaviors associated with negative risk factors would promote a better understanding of how student temperament impacts behaviors. In addition to this, teachers should continue to reflect on their bias, either based on their own introversion or extroversion or their perceptions of introversion or extroversion within the students in their classroom. Focusing on the attributional factors teachers associate with each temperament type, whether it be internal, stable, or controllable, will allow teachers to focus on how they characterize those behaviors represented by their students. If teachers are able to connect their attributions to how they respond to these behaviors within their classroom, they are better able to select guidance

strategies that are more affective in addressing the needs of that child, rather than just stopping the behavior in the moment.

Conclusion

Temperament plays a large role in the development of behaviors and responses in both adults and children. It can influence how individuals interact with others and act in novel environments, with differing temperaments often affecting how individuals perceive and interact with each other (Oren & Jones, 2009). This applies to the relationship between students and teachers as well, as teachers respond to introverted or extroverted behaviors from their students with differing guidance strategies. This study examined the relationship between student temperament and guidance strategies, by looking at the role that teacher temperament plays in what strategies are used and what teachers attribute to student temperaments.

Future research can provide more information into exactly how teacher temperament can influence the guidance strategies they choose and how they perceive and respond to differing or similar temperament within their students. Continuing to examine the influence of student temperament on how students are treated in the classroom is important as many aspects of introversion and extroversion are regarded positively or negatively based on how society, as well as schools, value those behaviors. Identifying guidance strategies that recognize and respect the introverted and extroverted nature of student's temperaments will not only protect against negative behaviors but will also assist in developing positive relationships between students and teachers.

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TABLES AND FIGURES

Table 1.

Teacher Demographic Information (N=100)

Descriptor	(%)
Racial Background	
Caucasian	86%
African American	4%
American Indian	3%
Latino	1%
Other	6%
Gender	
Male	0%
Female	100%
Highest Level of Education	
Some College or Technical Degree	8%
Bachelor's Degree	61%
Master's Degree	30%
Overall Years Taught	
0-5 years	53%
6-10 years	12%
11-15 years	8%
16-20 years	13%
21+ years	14%
Years Taught in ECE	
0-5 years	60%
6-10 years	8%
11-15 years	14%
16-20 years	9%
21+ years	8%
Current grade	
Pre-Kindergarten	32%
Kindergarten	24%
First Grade	19%
Second Grade	10%
Third Grade	7%
Other	8%
Area	
Rural	25%
Urban	35%
Suburban	40%

Table 2.
Paired Samples T-Tests of Introverted, Average, and Extroverted TPPQ sum scores of Behavioral Regulation (BR) and Socioemotional Supports (SES) for all Teachers

Pairs	Mean	SD	df	t	Sig. (2 – tailed)
Introverted BR – SES	11.244	3.654	89	29.190	.000
Average BR – SES	9.345	4.904	80	17.150	.000
Extroverted BR – SES	16.736	3.699	71	38.381	.000

Table 3.
Paired Samples T-Tests Comparing Introverted and Extroverted sum scores of Behavioral Regulation and Socioemotional Supports from TPPQ

Pairs	Mean	SD	df	t	Sig. (2-tailed)
Introverted BR - Extroverted BR	-4.056	4.401	70	-7.766	.000
Introverted SES - Extroverted SES	1.478	2.751	70	4.530	.000

Table 4.
One-Way Analysis of Variance of Teacher Temperament and Guidance Strategies used in Response to Introverted Student- Behavioral Regulation and Socioemotional Support (n=90)

Source		df	SS	MS	F	p
Introverted – BR	Between Groups	1	1.147	1.147	.062	.804
	Within Groups	89	1642.809	18.459		
	Total	90	1643.956			
Introverted – SES	Between Groups	1	.571	.571	.125	.724
	Within Groups	89	406.725	4.570		
	Total	90	407.297			

Table 5.

One-Way Analysis of Variance of Teacher Temperament and Guidance Strategies used in Response to Average Student- Behavioral Regulation and Socioemotional Support (n=80)

	Source	df	SS	MS	F	p
Average – BR	Between Groups	1	69.613	69.613	2.148	.147
	Within Groups	79	2560.387	32.410		
	Total	80	2630.000			
Average – SES	Between Groups	1	4.375	4.375	.504	.480
	Within Groups	79	685.946	8.683		
	Total	80	690.321			

Table 6.

One-Way Analysis of Variance of Teacher Temperament and Guidance Strategies used in Response to Extroverted Student- Behavioral Regulation and Socioemotional Support (n=71)

	Source	df	SS	MS	F	p
Extroverted – BR	Between Groups	1	8.233	8.233	.442	.508
	Within Groups	70	1303.420	18.620		
	Total	71	1311.653			
Extroverted – SES	Between Groups	1	9.490	9.490	1.292	.260
	Within Groups	70	514.288	7.347		
	Total	71	523.778			

Table 7.

Multiple Regression of Attribution for Extroverted Behaviors – using Behavioral Regulation

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	β	t	p
Constant	34.885	2.488		14.023	.000
Locus	.3266	.474	.085	.687	.494
Stability	.299	.487	.078	.613	.542
Controllability	.119	.481	.031	.246	.806

Note. Dependent variable: ETTPQ_ BR_Sum

Table 8.

Multiple Regression of Attribution for Extroverted Behaviors – Using Socioemotional Supports

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	β	*t*	*p*
Constant	20.098	1.564		12.848	.000
Locus	-.152	.298	-.630	-.511	.611
Stability	-.037	.306	-.015	-.121	.904
Controllability	.089	.303	.038	.295	.769

Note. Dependent variable: ETTPQ_ SES_Sum

Table 9.

Multiple Regression of Attribution for Introverted Behaviors – Using Behavioral Regulation

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	β	*t*	*p*
Constant	26.896	1.985		13.549	.000
Locus	1.581	.413	.391	3.831	.000
Stability	.070	.362	.020	.192	.848
Controllability	.658	.440	.151	1.494	.139

Note. Dependent variable: ITTPQ_ BR_Sum

Table 10.

Multiple Regression of Attribution for Introverted Behaviors – Using Socioemotional Supports

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	β	*t*	*p*
Constant	20.861	1.026		20.341	.000
Locus	.196	.215	.100	914	.364
Stability	-.298	.188	-.173	-1.587	.117
Controllability	.276	.231	.130	1.195	.236

Note. Dependent variable: ITTPQ_ SES_Sum

Table 11.
Multiple Regression of Attribution for Average Behaviors – Using Behavioral Regulation

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	β	*t*	*p*
Constant	24.763	3.644		6.795	.000
Locus	1.412	.740	.215	1.908	.060
Stability	.417	.481	.097	.866	.389
Controllability	-.128	.693	-.021	-.184	.854

Note. Dependent variable: ATTPQ_ BR_Sum

Table 12.
Multiple Regression of Attribution for Average Behaviors – Using Socioemotional Supports

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	β	*t*	*p*
Constant	18.917	1.893		9.994	.000
Locus	.468	.385	.139	1.218	.227
Stability	-.050	.250	-.023	-.198	.843
Controllability	-.203	.360	-.064	-.563	.575

Note. Dependent variable: ATTPQ_ SES_Sum

APPENDIX A
IRB APPROVAL

Oklahoma State University Institutional Review Board

Date: Monday, February 27, 2017

IRB Application No   HE1710

Proposal Title: Influences of Teacher and Student Temperament on Guidance Strategies in the Classroom

Reviewed and   Exempt
Processed as:

Status Recommended by Reviewer(s): Approved   Protocol Expires: 2/26/2020

Principal
Investigator(s):

Rebecca Finley   Amy Williamson

Stillwater, OK 74078   Stillwater, OK 74078
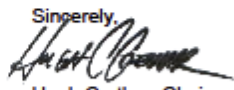

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☐ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms
2Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of the research; and
4Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Scott Hall (phone: 405-744-5700, dawnett.watkins@okstate.edu).

Sincerely,

Hugh Crethar, Chair
Institutional Review Board

APPENDIX B
RECRUITMENT FORMS

(Email recruitment language)

Dear XXX,

I am contacting you to ask you and your staff/members for your participation in an important survey. For my Master's thesis in Early Childhood Education at Oklahoma State University, I am looking for early childhood teachers (pre-K – 3rd grade) to complete a survey regarding guidance strategies in response to student behavior. This study will look at how introversion and extroversion can impact student and teacher behavior. Your input is needed and appreciated on this topic and your responses will help us to determine how temperament can impact how we teach.
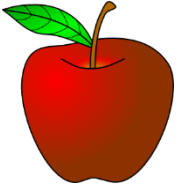
Please forward this to all of your members and ask them to pass it along to fellow teachers. I have attached a flyer with more information. I have also included the link to the survey below.
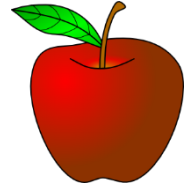
Thank you for your time!

Survey link: https://okstateches.az1.qualtrics.com/SE/?SID=SV_e4f5dEd4DqG7Ynr

Sincerely,

Rebecca Finley

Early Childhood Teachers Needed

If you currently teach in a **pre-K through 3rd grade** classroom, your participation is needed for a study looking at guidance strategies teachers use in response to student behavior.

This study looks at how introversion and extroversion can affect both student and teacher behavior.

We are asking you to complete a **15 minute survey** on this topic. All responses will remain anonymous.

To participate in the study or for more information please follow the link below:

https://okstateches.az1.qualtrics.com/SE/?SID=SV_e4f5dEd4DqG7Ynr

We thank you in advance for your participation and contribution to our research!

APPENDIX C
PARTICIPANT INFORMATION SHEET

Study Title: Influences of Teacher and Child Temperament on Guidance Strategies in the Classroom

Investigators: Rebecca Finley, Oklahoma State University, Dr. Amy C. Williamson, Oklahoma State University

1. PURPOSE OF RESEARCH:

* The goal of this research is to determine if introversion or extroversion in early childhood teachers influences the guidance strategies that teachers employ in response to introverted and extroverted behaviors in students and what teachers attribute as the causes of those behaviors.

2. WHAT YOU WILL DO:

* If you participate, you will be asked to complete a 15 minute survey online. Your answers will be anonymous. In the survey you will be asked to: 1) provide basic demographic information, 2) answer questions regarding your own introversion or extroversion, and 3) answer questions about likely responses to described child's behaviors and attributes associated with the described behavior, this will be completed for three different described children.

3. POTENTIAL BENEFITS:

* Participation may give you an opportunity to reflect on your beliefs and perceptions of introversion and extroversion in young children and their actions in the classroom environment. Your answers will provide insight into how extroversion/introversion in both the teacher and student can affect how teachers interact and perceive their students.

4. POTENTIAL RISKS:

* There are no risks associated with this project that are expected to be greater than those ordinarily encountered in daily life.

5. PRIVACY AND CONFIDENTIALITY:

* You will complete the survey anonymously. No identifiable information will be collected.

* When information you provide on the survey is reported as part of the study in papers or presentations, none of the information will be linked to you individually.

6. YOUR RIGHTS TO PARTICIPATE, SAY NO, OR WITHDRAW:

* Participation in this study is completely voluntary. You have the right to say no.

* If you decide to participate in the study, you may change your mind at any time and withdraw. There are no consequences to you for withdrawing from the study.

7. COSTS AND COMPENSATION FOR BEING IN THE STUDY:

* There is no cost to you for participating this study.

8. CONTACT INFORMATION FOR QUESTIONS AND CONCERNS:

* You may contact the researchers at the following addresses and phone numbers, should you desire to discuss you participation in the study and/or request information about the results of the study: Dr. Williamson can be contacted at 405-744-4325 or by email at amy.c.williamson@okstate.edu

*If you have questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this study, you may contact, anonymously if you wish, the Oklahoma State University IRB: Dr. Hugh Crethar, IRB Chair, 223 Scott Hall, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu

9. DOCUMENTATION OF INFORMED CONSENT:

* Clicking the button below marked "Consent and Continue" indicated that you are at least 18 years of age and voluntarily agree to participate in this study.

APPENDIX D
QUESTIONNAIRES

Demographic Information

1. Please indicate your gender:
○ Male (1)
○ Female (2)

2. Which of the following best describes your racial background?
○ Caucasian (1)
○ African American (2)
○ American Indian (3)
○ Asian (4)
○ Latino (5)
○ Other (6)

3. Indicate age: _____

4. Please describe your highest level of education:
○ High School (1)
○ Some College or Technical Degree (2)
○ Bachelor's Degree (3)
○ Master's Degree (4)
○ Doctorate (5)

5. Overall, how many years have you taught?
○ 0-5 years (1)
○ 6-10 years (2)
○ 11-15 years (3)
○ 16-20 years (4)
○ 21+ years (5)

6. How many years have you taught in an ECE classroom?
○ 0-5 years (1)
○ 6-10 years (2)
○ 11-15 years (3)
○ 16-20 years (4)
○ 21+ years (5)

7. Would you consider the area you teach in to be?
○   Rural (1)
○   Urban (2)
○   Suburban (3)

8. Please indicate the current grade that you teach:
○   Pre-Kindergarten (1)
○   Kindergarten (2)
○   First Grade (3)
○   Second Grade (4)
○   Third Grade (5)
○   Other (please specify) (6) _____

<div align="center">**Vignettes**</div>

<div align="center">(Arbeau & Coplan, 2007; Coplan, Hughes, Bosacki, & Rose-Krasnor, 2011)</div>

Shy/Introverted

During free play Mark frequently hovers outside a group of children playing a game. He may appear interested in joining but instead, he observes for a few minutes before deciding to play independently. You have often noticed that Mark appears to hesitate in social situations, rarely speaks in class, speaks softly when he does, and often appears to prefer working on his own.

Extroverted

While in group time, Anthony often shouts out questions and answers while you are talking, and talks over other students. He often appears very excited and eager to contribute in whole group discussions. While he appears to make friends easily, he often controls group work and conversations.

Average

During free play Allison asks to join other students playing in a group. She talks with her friends to decide what game they want to play and she takes turns being the police man. Allison actively participates within group discussions. You have observed Allison's behavior to be typical to other students her age.

Teacher Pedagogical Practices Questionnaire

(TPPQ; Thijs, Koomen, & Van Der Leij, 2006)

Please rate the likelihood that you would use the strategy described in response to the child described above.

	Yes, Certainly (5)------------(4)-------------(3)-----------(2)-------------(1) No, Certainly not
1. I set clear limits to this child's behavior.	
2. I punish this child when he/she displays socially disturbing behavior.	
3. During group circle conversations I have this child seated close to me.	
4. I speak individually to this child about his/her behavior.	
5. I have this child play with other children under my guidance.	
6. I try to teach this child social skills and behavior rules.	
7. Especially for this child I try to create a predictable and regular class environment.	
8. I encourage this child to play with other children.	
9. I intervene if this child feels ill at ease	
10. I help this child when she/he is teased by other children.	
11. I structure class activities so this child does not have to be alone.	
12. More than other children I try to make this child feel safe.	
13. I reward this child for "normal" social behavior, e.g., by paying compliments.	
14. Especially for this child I pay attention to group composition during small group activities.	

Revised Cheek and Buss Shyness Scale

(RCBS; Cheek, 1983; Leary, 1983)

INSTRUCTIONS: Please read each item carefully and decide to what extent it is characteristic of your feelings and behavior. Fill in the blank next to each item by choosing a number from the scale printed below.

1 = Very uncharacteristic or untrue, strongly disagree

2 = Uncharacteristic

3 = Neutral

4 = Characteristic

5 = Very characteristic or true, strongly agree

_____	1. I feel tense when I'm with people I don't know well.
_____	2. I am socially somewhat awkward.
_____	3. I do not find it difficult to ask other people for information.
_____	4. I am often uncomfortable at parties and other social functions.
_____	5. When in a group of people, I have trouble thinking of the right things to talk about.
_____	6. It does not take me long to overcome my shyness in new situations.
_____	7. It is hard for me to act natural when I am meeting new people.
_____	8. I feel nervous when speaking to someone in authority.
_____	9. I have no doubts about my social competence.
_____	10. I have trouble looking someone right in the eye.
_____	11. I feel inhibited in social situations.
_____	12. I do not find it hard to talk to strangers.
_____	13. I am more shy with members of the opposite sex.

Teacher Attribution of Introverted and Extroverted Behaviors

(Weiner, 1985)

Locus of Behavior

This behavior is based on …

Personality --- Environment

| 1 | 2 | 3 | 4 | 5 |

Stability of Behavior

This behavior is …

Situational --- Stable over time

| 1 | 2 | 3 | 4 | 5 |

Controllability of Behavior

This behavior …

Cannot be controlled by the child ------------------------------------- Can be controlled by the child

| 1 | 2 | 3 | 4 | 5 |

VITA

Rebecca Finley

Candidate for the Degree of

Master of Science

Thesis: INFLUENCES OF TEACHER AND CHILD TEMPERAMENT ON GUIDANCE STRATEGIES IN THE CLASSROOM

Major Field: Human Development and Family Science

Biographical:

Education:

Completed the requirements for the Master of Science in Human Development and Family Science at Oklahoma State University, Stillwater, Oklahoma in May, 2017.

Completed the requirements for the Bachelor of Science in Human Development and Family Science at Oklahoma State University, Stillwater, Oklahoma in May, 2016.

Experience:

Camp Lead Counselor – 3 & 4 years old – Texans Summer Camp, Texas Instruments – Dallas, Texas – June-August 2016

Student Teacher- Pre-K/Kindergarten – Child Development Lab- Stillwater, Oklahoma- January-May 2016

Summer Camp Counselor – 6-10 years old- Texans Summer Camp, Texas Instruments- Dallas, Texas – June-August: 2013-2015

Credentials:

Oklahoma Teaching Certification - Early Childhood Education (Pre-K- Third grade), Valid until June, 30, 2021

Texas Teaching Certification – EC-6, Valid until May 31, 2022