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Differential Effects of Gratitude and Positive Peer Reporting Interventions on Student Subjective Wellbeing, Classroom Behavior, and School Connectedness

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DIFFERENTIAL EFFECTS OF GRATITUDE AND POSITIVE PEER REPORTING INTERVENTIONS ON STUDENT SUBJECTIVE WELLBEING, CLASSROOM BEHAVIOR, AND SCHOOL CONNECTEDNESS

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ABSTRACT

Recent research and development in the ever-growing area of systems-level change in schools, including positive behavior interventions and supports (PBIS), school climate, and social-emotional learning (SEL), has stressed the importance in fostering positive outcomes for students. The additional focus on encouraging and promoting positive school-based relationships and cultivating individual student strengths has shown promising outcomes, including higher academic achievement, lower levels of problem behavior, and a greater sense of belonging in schools. However, in some disadvantaged and high-needs school districts, implementing systemic approaches or obtaining the personnel to implement individualized student services can prove exceedingly difficult, namely due to limited resources and financial constraints. Given the emphasis on utilizing evidence-based practice in our schools whenever possible, there is a growing need for cost-efficient, feasible, and effective interventions for fostering subjective wellbeing and social, emotional, and behavioral competence in our students. The current study investigated the impact of two distinct classroom-based interventions on behavior, school connectedness, and student subjective wellbeing.

Results revealed limited and variable findings across outcome variables and intervention conditions, but also suggest positive potential interventions that warrant future research. While there were limited effects of either intervention on student-reported subjective wellbeing, there did appear to be a protective factor associated with maintaining student-reported levels of gratitude and abating teacher-reported levels of conflict across both intervention conditions. Despite negligible differences between interventions on any of the outcome variables, analyses also revealed significant and large effects for both intervention groups in improving classroom behavior, where several variables declined for students participating in control classrooms.

Further, participating teachers and students rated both interventions as highly acceptable, and teachers also rated both interventions as feasible, understandable, and requiring little external support and resources to implement. The following manuscript includes further examination of these results, a discussion of the importance of these early findings, and implications for practice and future research.

CHAPTER 1
LITERATURE REVIEW

1.1 Overview of Systems-Level School Service Delivery

Research and practice in the field of school psychology in the last few decades has shifted away from the more traditional focus on solely promoting academic growth, and instead recognizes the importance of also fostering positive social, emotional, and behavioral outcomes for students. This shift was initially evident in the inclusion of whole-school approaches such as positive behavior interventions and supports (PBIS) in educational legislature (e.g., Individuals with Disabilities Education Act; IDEA, 1997, 2004). Further demonstration of this shift can be seen in the emphasis that many schools are currently taking to provide safe and secure learning environments for students, through strategies such as anti-bullying movements, a focus on school climate, and efforts to improve crisis preparedness and responding. Changes in policy and practice in the field over time have led to extensive research surrounding these systems-level programs, showing beneficial educational impact across a multitude of outcomes, including improvements in academic achievement, decreases in problem behavior, and an improved sense of community in schools, to name a few.

Systems-level services are also included as a prominent part of the best practice recommendation for service-delivery by the National Association of School Psychologists (NASP). NASP's Practice Model outlines ten domains of professional practice for school psychologists that together represent the official policy of the organization related to comprehensive and effective work in schools (NASP, 2010). Systems-level services are divided into three major overarching areas out of the ten domains, each of which are designed to effectively deliver services to the entire school population, including all students and families. The first of the three areas outlines the importance of having school wide practices in place to

promote learning. Such practices include systemic and organizational foundations that allow school professionals to implement strategies to create and maintain learning environments that are effective and provide support for students and teachers (NASP, 2010). These strategies could include a wide variety of efforts, including a focus on providing evidence-based practice, ongoing professional development for staff, consistent policies, or the implementation of a common curriculum. In addition, systems-level services also include a focus on an assortment of multi-tiered, systematic, and diverse prevention and response services that enhance learning, mental health, school safety, and the physical wellbeing of students (NASP, 2010). These practices could include strategies such as recognizing and assessing for risk and resilience factors, the promotion of crisis preparation, school wide approaches to promoting mental health, and creating positive expectations through systems such as PBIS. The third domain related to systems-level services as outlined by the NASP Practice Domains (2010), is the importance of collaboration between families and schools, including methods to encourage school-home collaboration and involvement, and respect and understanding for family diversity, individual strengths, and a sense of respect for culture and community.

All systems-level approaches to service delivery, even those outside of the school setting, tend to have similar foundational components, each serving its purpose to facilitate day-to-day operations and to provide necessary services to the populations being served. Schools are considered unique social systems, within which personnel at differing levels and in diverse roles interact and work simultaneously to promote the education of students (Forman & Selman, 2011, p. 628-629). The actions of school personnel across the three domains of systems-level services according to NASP (2010) together contribute to the overall way a school operates, leading also to the subjective experience for members of the school community. Further review of this

literature suggests that two major spheres of the school system are at play in determining the way a school operates: culture and climate (Forman & Selman, 2011, p. 631). Culture, according to the authors, is the overall approach and core beliefs held by the school. Climate, on the other hand, refers to the subjective experiences of the individuals within the school community, typically a result of the school's culture (Forman & Selman, 2011, p. 631).

Research out of the National School Climate Center further breaks down the definition of school climate to include five dimensions, including (1) Safety, (2) Relationships, (3) Teaching and Learning, (4) the Institutional Environment, and (5) the School Improvement Process (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). Each dimension, when implemented concurrently, is believed to contribute to the overall quality of the school system and to improve outcomes for students and staff within the school. First, research has shown that when students feel safe, they are more likely to succeed academically and socially (Thapa et al., 2013). Schools can promote feelings of overall safety in many ways, namely by ensuring there are clear rules and norms, students' physical safety is a priority of the administration and staff, and there are policies in place that also promote social-emotional safety in relationships, at both the school and classroom levels. Doing so can thereby help to foster a sense of reassurance that can be extremely beneficial for all students. Relationships in schools have clear importance when considering the overall climate of the school environment, for all involved, including a respect for diversity and feelings of connection among school leadership (Thapa et al., 2013). Research demonstrates a variety of factors that support this notion, including the fact that students who feel cared for by their teachers are more likely to succeed and to have less behavior problems than students who experience conflictual relationships with their educators (Thapa et al., 2013). Further, a classroom environment that places value in teaching and learning through a variety of

activities and domains (e.g., social-emotional learning, civic duties, cooperative and active learning), is also likely to foster positive feelings of connection and community for students, a greater drive to learn, and improved academic success (Thapa et al., 2013). Finally, according to the research outlined and reviewed by Thapa and colleagues (2013), the physical environment of the school (e.g., the physical surrounding, access to resources and supplies), and a focus on continual school improvement can also lead to improved perceptions of safety and connection for students. The research on these distinct dimensions is still underway, but the conclusion drawn by the literature related school climate thus far shows that positive perceptions of the educational environment have important implications for student and staff outcomes, namely in risk prevention, academic achievement, and social functioning (Thapa et al., 2013). Further studies are needed to tease apart the influence of each dimension on educational outcomes.

Other popular and more extensively studied system-level approaches in schools include Schoolwide Positive Behavior Interventions and Supports (SWPBIS, often referred to as PBIS) and distinct curricula designed to foster social and emotional learning (SEL) in schools. First, PBIS is a systemic, universal approach to school-wide discipline, aimed at preventing and remediating student behavior problems (Forman & Selman, 2011; Sanetti & Simonsen, 2011; www.pbis.org). Services are delivered from a multi-tiered system of support (MTSS), with each tier aimed at prevention, intervention, data-based decision-making, and progress monitoring at different levels of intensity in an effort to prevent and remediate existing problem behaviors (Sanetti & Simonsen, 2011, p. 651-655). The first and foundational tier incorporates universal screening and prevention activities designed for the identification of at-risk students, and the provision of school- and classroom-wide strategies involving all students and staff (Sanetti & Simonsen, 2011; www.pbis.org). Examples of other universal strategies potentially implemented

in a PBIS system include school wide rules and expectations for behavior, a classwide system for managing student behavior and providing reinforcement, or re-teaching and practicing behavioral expectations to all students. Secondary, or tier two supports in a PBIS approach are typically targeted at students who are at-risk for behavioral challenges or who have been identified as needing intervention slightly more advanced than what is provided to all students at the universal level. Ongoing progress monitoring and evaluation of student needs then dictates whether students require more or less intervention and support. Students who do not respond to tier two interventions may eventually require more individualized and intensive services, resulting in the third tier of PBIS systems (Sanetti & Simonsen, 2011; www.pbis.org). Tier three interventions are typically designed for students who are displaying high-risk behaviors, and are often individualized positive behavior plans targeted at the hypothesized function underlying their presenting behaviors.

The overall focus of PBIS at the systemic level is prosocial and proactive, intended to provide students with services and behavioral supports that they may need and are likely to work for their individual needs as early as possible. In creating a school environment attentive to the provision of positive reinforcement and constructive discipline strategies, behavioral and academic success is deemed more achievable for students. PBIS has been extensively researched over the years and the outcomes are clear: when schools implement PBIS with fidelity, students benefit. Creating a contextual and systems-level approach in the school surrounding consistent and positive behavioral expectations works. However, some research has highlighted the challenges surrounding implementation of PBIS at the school wide level, particularly for schools housed in at-risk or under-resourced communities. Kincaid, Childs, Wallace, and Blase (2007) investigated the barriers in implementing school wide PBIS systems in 26 of Florida's public

schools, representing 18 different school districts. Findings revealed that some of the influential barriers to schools' implementation included staff buy-in, logistics in implementing the reward system, teacher turnover, training school staff, time, funding, and a lack of district support, among other factors (Kincaid et al., 2007). Schools also identified important facilitator variables that made implementation more feasible. Among those included support from their school district and administrators, funding, and plans for use of the data (Kincaid et al., 2007) as being incredibly important to implementation. Schools located in highly stressed systems are often stressed financially, under-staffed, and under-resourced, resulting in higher rates of teacher turnover and less time for administrators. It stands to reason that implementation of a new system could present as a significant challenge for these schools, particularly without district support, time for training of school staff, or external funding.

Social and emotional learning (SEL) programs are often considered an additional approach to universal prevention, fostering successful student functioning, improved social skills, and effective emotion management. The emphasis from SEL programs is typically on the integration of explicit instruction in social and emotional realms within a positive instructional environment. Founded in 1994 with the intent to consider the needs and implications surrounding SEL, the Collaborative for Academic, Social, and Emotional Learning (CASEL) has been instrumental in promoting the evidence-base and the explicit teaching of these skills in schools. Since then, the components of programs that contribute to improved outcomes have been widely studied. Likewise, the definition of successful social and emotional proficiency has also been refined to include five core aspects of competence. These core competencies including self-awareness, self-management, responsible decision-making, social awareness, and relationships skills (CASEL, 2007), each of which, when learned in combination or supplemented over time,

lead to an individual's ability to behave and interact positively with a wide range of people in a variety of contexts. Applied research has demonstrated these improvements through research with a diverse group of students. For example, a meta-analysis examining 213 school-based SEL programs involving students from Kindergarten to high school (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011), found that SEL programs led to an overall improvement in students' attitudes about themselves, others, and school in general. Findings also indicated that implementing SEL curricula increased students' prosocial behaviors, improved their academic performance, and decreased problem behaviors and internalizing problems for all school-aged youth (Durlak et al., 2011). The authors were also interested in investigating whether certain key components did, in fact, moderate these findings. Analyses revealed that SEL programs had the biggest impacts when they were implemented with integrity, and incorporated lessons that were coordinated and sequenced, actively engaging, focused on fostering social skills, and explicit in which skills were targeted (SEAL; Durlak et al., 2011).

Promoting a sense of collaboration and positive climate, reducing stress, and encouraging mutual respect and cooperation is of particular importance in low-income, high-needs school districts. School-based research surrounding the education and school experiences of students from diverse backgrounds (e.g., lower socioeconomic status, racial and sexual orientation subgroups, students with disabilities, etc.) has demonstrated that many may be at-risk for disadvantageous outcomes (Proctor & Meyers, 2014), including lower academic achievement, disproportionate placement in special education programs, and a higher likelihood of peer victimization, psychological symptomology, and dropout rates. Furthermore, research has also shown that racially diverse students, in particular African American and Latino students, are more likely to experience incongruent school-based discipline practices, such as higher rates of

office discipline referrals and more severe punishments (i.e., suspension and expulsion) for behavioral violations when compared to their Caucasian peers (e.g., Proctor & Meyers, 2014). Given the disparate experiences in the school setting and the potential impacts that these situations can have on long-term student outcomes, educators working in high-needs schools, which often also have a higher proportion of diverse students and families, need to be aware of what can be done to proactively remediate these potential effects. Adopting a systems-level approach in these situations may be a viable option, but this would likely require administrative and district approval, and a substantial time and resource requirement to implement from the beginning.

Clearly the literature in this area has demonstrated that the adoption of a systems-level approach can be an effective method for cultivating student social, emotional, and behavioral competence and fostering academic success. Doing so has many merits for schools, teachers, parents, and students alike. The systemic approaches underlying PBIS and SEL, in particular, have been well documented in fostering advantageous outcomes for youth across a diverse range of environmental contexts. The next step, then, is in continuing to identify ways to encourage schools and school districts to implement these programs with fidelity. If, however, schools are ill prepared for systemic change, it then falls on professionals in the schools, namely school psychologists, to identify and encourage specific evidence-based interventions that have potential to foster comparable outcomes for students. Identifying feasible and effective interventions of this caliber is a major objective of the current study.

1.2 Importance of Promoting Student Subjective Wellbeing

More recent strides in the field of psychology have been made in the last decade or so by exploring the implications of enhancing positive traits and outcomes rather than the more

traditional focus on decreasing psychological distress and remediating problems. This is particularly well suited for modern work in schools, especially given the emphasis on promoting students' academic and social functioning at the forefront of work and research in this setting (e.g., PBIS, SEL, enhancing grades and promoting positive social functioning in place of aggression). Subjective wellbeing is arguably of particular relevance, as it is clearly indicated in systems-level research that students' perceptions of their connections and positive experiences in the school setting are important in fostering school climate and positive student outcomes. Early research in the realm of measuring contributions of student life satisfaction found that schooling experiences were among the five factors most closely associated with life satisfaction, also including relationships between family members, friendships, satisfaction with the self, and the living environment (Huebner, 1994). Wellbeing in general is defined in many ways across the literature, but is largely considered to be a meta-construct of a variety of positive aspects of daily life, meaning that wellbeing is comprised of numerous indicators of life success (Renshaw, Long, & Cook, 2015), many of which are often seen as subjective in nature, including domains such as life satisfaction and overall positive emotional experiences surrounding one's life circumstances (see Suldo, Huebner, Savage, & Thalji, 2011, p. 504).

Numerous studies conducted with youth across a wide age range (i.e., emerging middle school to late adolescence) have found significant positive correlations between youth-reported subjective wellbeing and reported levels of social support from various peers and adults, confidence in academic ability, value of education, resolve in consideration of future careers, and interpreted physical health (in Suldo et al., 2011). Subjective wellbeing has also been associated with numerous systems-level factors. Namely, positive peer relationships and a healthy school climate characterized by support from teachers and school belonging and connectedness, are all

positively correlated with student subjective wellbeing (Suldo et al., 2011, p. 508-509). Gilman (2001) found that by increasing student engagement in structured extracurricular activities improvements in student life satisfaction could be fostered. More recent research by Reschly, Huebner, Appleton, and Antaramian (2008) also found that students were more likely to report positive emotions in school when they were engaged in meaningful schoolwork and future-directed activities, received more support from peers and family members relevant to their schoolwork, and engaged in positive relationships with their teachers. While these findings are certainly meaningful, the subjective nature of the conceptualization overlooks many observable and measurable variables that are likely associated with healthy student functioning. Many professionals working and conducting research in schools typically consider these objective indicators of student success, such as student engagement (i.e., on-task behavior), disruptive or prosocial behaviors, or academic grades, to be most salient in measuring student progress.

While researchers across disciplines have examined a wide variety of subjective wellbeing outcomes (e.g., subdomains such as optimism and zest, life satisfaction, etc.), it is only in more recent years that studies have begun to investigate how subjective wellbeing might be related to these behavioral and performance-based outcomes. Parish and Parish (2005) conducted a study in which 1,174 sixth and eighth grade students self-reported on their individual levels of happiness. Students' scores were then categorized based upon these levels of subjective happiness, from "low-happy" to "high-happy," and then used as comparisons to their self-reported levels of positive school-related behaviors. Findings from the analyses indicated that these subjective experiences were, in fact, related to levels of prosocial behaviors in school. Results further revealed that among students across all grade levels, those who were categorized as "high-happy" were those students who engaged in significantly more prosocial school-related

actions (i.e., working cooperatively with others and treating peers and teachers with respect), particularly when compared to students considered to be "low-happy." The authors then suggest that if students are happy, they will be more likely to engage in behaviors that are considered desirable in the classroom (Parish & Parish, 2005).

Additional evidence for the importance of considering the promotion of positive subjective functioning was demonstrated in a study conducted by Antaramian and colleagues, (2010). The authors assessed 764 middle school students' levels of subjective wellbeing, psychopathology, academic achievement (i.e., GPA and standardized test scores), and self-reported behavioral, emotional, and cognitive engagement. Students were categorized into one of four mental health groups, based on their levels of subjective wellbeing and psychopathology and group differences were assessed between the four categorizations on academic achievement, student engagement, and ratings of various aspects the school environmental context. Youth with the most positive levels of mental health had the highest GPA scores, reported feeling better supported in their learning by their peers, and had higher quality student-teacher relationships (Antaramian et al., 2010). Similar findings emerged for levels of behavioral, emotional, and cognitive engagement (Antaramian et al., 2010), with students with the highest levels of mental health also had the highest levels of engagement scores in all three domains. Results of the dual-factor analyses revealed that together, subjective wellbeing and the absence of psychopathology predicted superior school performance. These findings support the assessment and promotion of students' subjective wellbeing to encourage school success, and the direct intervention to promote wellbeing as a distinct outcome (Antaramian et al., 2010).

Undoubtedly, promoting students' social, emotional, and behavioral functioning is at the center of work and research in school psychology. Wellbeing is directly related to these goals, as

it is arguable that the promotion of subjective wellbeing assists in the attempt to take a comprehensive and holistic approach to school services for youth (Furlong, You, Renshaw, O'Malley, & Rebelez, 2013). Because subjective wellbeing has been associated with a variety of indicators of school success and general positive outcomes in the school setting, including those detailed above, determining easy intervention strategies for promoting it among youth is especially important. Suldo and colleagues (2011, p. 509-517) further review the above strategies for promoting wellbeing in youth, naming the advancement of positive family relationships, peer relationships, and healthy school climate as influential components in fostering wellbeing. As such, designing interventions targeted at increasing engagement and school-based relationships are likely to provide increases in subjective wellbeing.

1.3 Gratitude-Based Interventions

Unfortunately, research related to subjective wellbeing and positive psychological constructs in general has been conducted primarily with adults to this point (e.g., counting ones blessings, random acts of kindness, hope, goal-setting, etc.) and is fairly limited in regards to explicit interventions targeted at fostering subjective wellbeing in children and teens (Suldo et al., 2011). Of the positive psychological constructs that have been targeted in research with youth, gratitude has emerged as a prominent topic in the literature, particularly by the NASP professional community. While many professional and popular press articles exist that support the use of gratitude with youth, very few empirical intervention studies have been routinely sited in the literature. In an attempt to gain clarity over the status of the literature and the effect of gratitude-based research with youth, Renshaw and Olinger Steeves (2016) conducted a systematic review and meta-analysis on the use of gratitude-based research with youth. Of specific importance to the investigation was the scarcity of this research to date, the limited

number of empirical intervention studies (n = 6), and the limited effectiveness of gratitude interventions that have been conducted thus far (Renshaw & Olinger Steeves, 2016), despite the popularity of utilizing gratitude strategies with students.

Studies included in investigating the relationships between gratitude and other outcome variables showed some positive results, particularly when investigating correlational variables. Specifically, student's levels of gratitude across these studies were positively associated with other measures of subjective wellbeing, including positive affect, an overall positive outlook on life, and positive views of themselves and negatively associated with measures of distress, such as negative affect, depression, and somatic complaints (Renshaw & Olinger Steeves, 2016). However, given the limited number of gratitude intervention studies, there has been little empirical evidence linking gratitude interventions to significantly improved outcomes for students and school professionals (Renshaw & Olinger Steeves, 2016). Overall, results of the identified meta-analysis revealed that the gratitude interventions as a whole were largely deemed ineffective, although slight effects were found for individual measures across some of the studies. The authors, therefore, recommend that substantial gratitude intervention research be conducted before claiming that gratitude is an effective agent of change for students in schools (Renshaw & Olinger Steeves, 2016).

In order to consider the pursuit of additional gratitude intervention research, a brief review of the studies that are most relevant to the current study, including the strengths and weaknesses of this existing intervention research is warranted. Out of the six intervention studies identified in the Renshaw and Olinger Steeves (2016) article, each used a different protocol. The first published gratitude intervention study with youth, conducted by Froh, Sefick, and Emmons (2008), adapted a "counting blessings" exercise that was previously used with adults (see

Emmons & McCullough, 2003) with students in a parochial school setting, where students wrote a list of up to five things they were grateful for since the previous day. Students engaged in this activity once per day, every other day, for only two weeks. Results of the study were limited. Students in the gratitude condition did report significantly higher levels of self-reported gratitude, optimism, life satisfaction, and lower negative affect (Froh et al., 2008). However, these results were only significant when compared to a group of students actively listing "hassles" and not when compared to the no-treatment control group. Additionally, the counting blessings gratitude intervention was not significant in regards to improving prosocial behavior with students (Froh et al., 2008). The "counting blessings" intervention in the Froh and colleagues (2008) study is similar in design to the "Three Good Things" gratitude intervention conducted by Seligman, Steen, Park, and Peterson (2005) in which adult participants were asked to record three specific things that had gone well that day and why they were good things. Results demonstrated that doing so increased happiness and decreased symptoms of depression in the participating adults for six months (Seligman et al., 2005).

The other relevant intervention study from the systematic review and meta-analysis to the current investigation is the study conducted by Akhtar and Boniwell (2010) to remediate alcohol consumption in adolescent participants. The authors incorporated a similar component, namely weekly gratitude activities where adolescent participants "appreciated the good things in their lives," but because the weekly component was only a small portion of a larger positive psychology intervention "workshop," the results related to gratitude as an intervention agent are difficult to interpret. However, the findings from the study as a whole suggested promise, leading to significantly higher self-reported levels of happiness, optimism, and positive emotions at post-test for intervention group. Further, students reported enjoying the gratitude component of the

intervention after the end of the workshop, some continuing to use gratitude strategies as an explicit way to avoid further alcohol consumption (Akhtar & Boniwell, 2010), warranting future research to investigate its impacts.

1.4 School Connectedness and the Promotion of Positive School Relationships

Although each unique in terms of the overarching approach to service delivery, school climate research, PBIS, and SEL programs all have one major thing in common: an emphasis on engaging universal shared experiences. In a review of the various measures used to gauge levels of student self-reported connection to their schools, Libbey (2014) evaluated the various terms often associated with researching this phenomenon (e.g., school bonding, school connection, student engagement, etc.) and the specific content of the items from each measure. Despite the differential terminology used across the studies, the content of the tools were fairly consistent: most measured a student's sense of belonging in school, the level of perceived support and caring from their teachers, and the presence of friends in the school environment, to name a few (Libbey, 2014). These shared experiences in a school context often contribute to a developing sense of community and connection to others. Connectedness, then, when viewed in light of this, is consistent with the definition provided by the Center for Disease Control (CDC, 2009), or "the belief by students that adults and peers in their school care about their learning as well as about them as individuals."

As suggested in the review of the literature above, this subjective sense of belonging and feelings of support in school is related to many desired educational outcomes that have been replicated across numerous studies. Students who feel connected to others in their school are more likely to come to school in general, to graduate high school, and to achieve higher academically (CDC, 2009; Monahan, Oesterie, & Hawkins, 2010). Further, a higher sense of

connectedness is also related to lower levels of depressive symptoms and emotional distress, while students with lower levels of school connectedness are instead at-risk for problems associated with their mental health (Monahan et al., 2010).

One specific school-based relationship that has received extensive and comprehensive coverage in the literature is that of the relationship between teachers and their students. Given the widespread nature of the material, highlights of the overall impact of student-teacher relationships will be discussed here instead of in-depth discussions of individual studies. For a more comprehensive discussion of promoting student-teacher relationships from various perspectives, the author recommends referencing Charney (2002), Pianta (1999), Pianta, Hamre, and Stuhlman (2003), or Sabol and Pianta (2012), or the various individual studies directly. Some distinct research has demonstrated that in the early developmental years these relationships are especially important, particularly for students at-risk or showing warning signs of behavior and emotional problems, and students who are retained tend to have lower quality relationships with their teachers over the years (Hamre & Pianta, 2006). Additionally, younger children with better connections to their instructors may learn various social and emotional skills more quickly than students who have lower quality relationships (Thapa et al., 2013). These skills often serve as the foundation for later social functioning, and can also serve as protective factors for young children with emerging levels of internalizing behavior problems (O'Connor, Dearing, & Collins, 2011). These findings demonstrate how vital early relationships are to the educational process for students.

As children age, relationships in schools may change and fluctuate according to what is developmentally appropriate, but they still remain important. Kearney, Smith, and Maika (2014) found in a study of fourth and fifth graders that students who feel more supported by their

teachers are more engaged in both reading and mathematics classes. Similarly, Furrer and Skinner (2003) found in a sample of 3rd to 6th graders, that higher levels of relatedness in general (to teachers, parents, and peers) predicted higher levels of student engagement, especially emotional engagement (i.e., happiness, interest, and enthusiasm in schools). An additional important consideration in these findings is that students who were initially low in levels of relatedness during the fall reported even lower ratings of their relationships in the spring (Furrer & Skinner, 2003). This has significant implications as the data suggests that without explicitly addressing low quality relationships between students and teachers, these interactions are likely to worsen over time, contributing also to lower levels of engagement throughout school as time passes. Students higher in relatedness at the beginning of the year, on the other hand, continued to improve their relationships over time, likely gaining more social skills and increasing the quality and level of engagement as the school year progressed (Furrer & Skinner, 2003).

Other research has also demonstrated the importance of relationships for students displaying aggressive and risky behaviors. Upper elementary children who are aggressive yet have positive relationships with their teachers have the potential to learn better ways to interact with others, and as a result, eventually engage in more adaptive and positive peer relationships (Hamre & Piana, 2006). Moreover, students experiencing higher levels of school connectedness are significantly less likely to engage in high-risk behaviors such as smoking, drinking, carrying a weapon, or attempting suicide (CDC, 2009; McNeely, Nonemaker, & Blum, 2002; Monahan et al., 2010), suggesting that relationships can serve as protective factors and assets for students in need. Data obtained from National Longitudinal Study of Adolescent Health further supported these findings over the passing of time (CDC, 2009), demonstrating that higher levels of school relatedness were the strongest protective factors against risky behaviors including substance

abuse, violence, and unintentional injury in adolescents as schooling progressed. Several other sources have found that variables at the classroom level, such as the arrangement of the physical environment and the utilization of effective classroom management strategies are also associated with increased school connectedness and improved relationships between students and their teachers (CDC, 2009; McNeely et al., 2002). Specifically, teachers who provide multiple opportunities to interact with their students, who are more adept at tolerating and efficiently redirecting minor behavior infractions, and who encourage frequent and active participation throughout the school day often have students who report higher rates of school connectedness (CDC, 2009; McNeely et al., 2002). Taken together, these findings underscore the utility of interventions targeting the student-teacher relationship in schools.

Other research has also demonstrated the importance of connections among classmates and the development of peer relationships on overall school success. One such study conducted by Kearney and colleagues (2014) found that elementary students who had higher perceptions of support from their peers, in addition to their teachers, also had higher levels of engagement in their reading and math classes. Findings of a separate study conducted with 80 elementary students found that classes in which students treated each other equally had more behaviorally engaged students (Cappella, Kim, Neal, & Jackson, 2013). These same relationships also lessened the impact of behavior problems on student engagement in these classes (Cappella et al., 2013), suggesting that classroom environments in which students are engaged with each other socially may lead to significant improvements in academic engagement. Belonging to a stable network of friends can also protect students from bullying and can lead to more prosocial behaviors, according to other research outlined by the CDC (2009). By high school, students who have a strong peer group and are accepted by their classmates are more likely to be engaged

socially and academically (CDC, 2009; Monahan et al., 2010), and to engage in less bullying and aggressive behaviors with their peers. These are all outcomes that are typically desired by teachers and other school professionals, so it stands to reason that efforts to improve relationships among students, their classmates, and their teachers during school should be a priority.

1.5 Teacher-Delivered Intervention Strategies and Teacher Praise

Across many of the resources reviewed thus far, a consistent theme has emerged related to the importance of teachers using effective, consistent, and positive classroom management strategies to promote relationships with their students and connections in their classrooms. In an approach called "Defensive Management" (Fields, 2004), teachers in two separate trials implemented classroom management strategies in an attempt to avoid conflict and emotional responses in their interactions with students. Teachers instead applied six specific strategies throughout each day, such as planning ahead and preparing for potential obstacles, making intentional positive contact with students prone to problem behavior early in instruction, actively observing classroom events and staying aware of potential warning signs related to student problem behavior, defusing or de-escalating situations involving noncompliance or defiance, and positively re-connecting after time to calm down with students who did engage in disruptive behavior (Fields, 2004). Teachers also made sure to engage in at least one positive verbal interaction with each target student during each individual class session. As a result of engaging in this "defensive" classroom management approach, statistically significant changes were found in teacher-reported levels of efficacy related to their own behavior management skills, but also in reductions in the number and frequency of office discipline referrals in their classrooms.

Given the need for feasible, low-cost, and effective interventions that teachers can implement with fidelity in systems-level approaches, it warrants a review of interventions that teachers can implement without an extensive time or resource requirement. In two separate multiple-baseline single case design studies, Allday and Pukurar (2007) and Allday, Bush, Ticknor, and Walker (2011) each investigated the use of simple teacher greetings on student outcomes. In the initial study (Allday & Pukurar, 2007), teachers welcomed each student as they came into their classroom every morning. An individualized positive statement also accompanied these greetings, such as, "I am glad you are here today." Findings demonstrated that a quick and easy intervention could lead to improvements in on-task behavior at the start of each class period. The same intervention was later delivered across schools and with a separate group of students (Allday et al., 2011). Results of the subsequent study replicated the earlier findings, showing that simple teacher greetings led to increased on-task behavior at the start of classes. Findings from the replication also provided additional information, however, and demonstrated that the length of time it took students to begin their work in the morning decreased for each student after the implementation of the greetings from their teachers (Allday et al., 2011). While these studies are simplistic in nature, they do provide evidence that simple interventions can have an initial impact.

The use of teacher-delivered praise is a well-established known component of effective classroom management that has been used to foster on-task behavior and decreases in behavior problems in classrooms for decades. It is a feasible and direct strategy that fits readily into schools employing a PBIS systemic approach, and can be easily implemented by teachers in any classroom setting (Jenkins, Floress, & Reinke, 2015). However, much of the research on the exact nature of delivering praise lacks specificity surrounding the use of general or behavior-

specific praise and the outcomes associated with each. Additionally, clarification surrounding the use of behavior-specific praise for classwide problem behaviors is still in need of updated investigation (Jenkins et al., 2015). The literature does support the use of teacher-delivered praise as a component of pre-service teacher education, leading to teachers who are better prepared to handle behavior problems as they arise in their classrooms.

In a study designed at investigating a different type of praise, (Nelson, Young, Young, & Cox, 2009), middle school teachers were taught to use hand-written praise note as an intervention to praise students prone to disruptive behavior. Analyses revealed that doing so led to a significant decrease in the number of office discipline referrals (Nelson et al., 2009). More recently, Kennedy, Jolivette, and Ramsey (2014) attempted to replicate and expand upon these findings by applying a combined intervention, including teacher and peer praise notes. Keeping in line with previous research on praise, notes were specific in nature and written about positive behaviors the writer had personally witnessed in the last day. Findings revealed that both interventions were equally effective in significantly reducing inappropriate classroom behaviors, consistent with previous studies demonstrating the impact of both teacher and peer-delivered praise (Jenkins et al., 2015; Kennedy et al., 2014). Both teacher and peer praise notes were also deemed socially valid by both students and the teacher in the study. While the effects of increasing rates of teacher-delivered praise on student objective behaviors has been documented, little research has investigated the use of praise to promote a better sense of classroom community, improved classroom relationships, or levels of student wellbeing. The current study will investigate this further in an attempt to expand the literature in this domain slightly.

1.6 Peer-Delivered Interventions and Positive-Peer Reporting

Other interventions targeting the delivery of praise to students by their peers have been investigated in the literature and demonstrated additional positive effects. One such intervention, called positive peer reporting (PPR), is a peer-mediated intervention that involves teaching students to provide praise to their classmates. The focus is typically on improving social interactions for rejected or neglected "target" students (Skinner, Neddenriep, Robinson, Ervin, & Jones, 2002) by teaching peers a distinct method for identifying prosocial behaviors and encouraging and fostering cooperation during school (Jones, Young, & Friman, 2000). When using a PPR approach, teachers typically select individual students in the class as targets of the intervention based either on sociometric ratings or by identifying students who could benefit from improved peer relationships (e.g., socially excluded students or students with few friends; Jones et al., 2000). Subsequently throughout the day, students earn points for praising the target student(s) for positive behaviors, academic successes, or positive social interactions. Students are then rewarded during daily activities for specific instances of providing praise to the target student. In most classrooms implementing PPR interventions, the target students typically alternate on a weekly basis or cycle through the class list, so as not to make any individual students feel singled out or uncomfortable.

The impacts of PPR interventions have been clearly established over the years, and routinely lead to increases in reciprocal positive interactions among classmates, thereby improving the quality of overall social relationships in the classroom and subsequently improving the social status of the target children (Jones et al., 2000). However, a review of many PPR interventions revels that few demonstrate long-term effects that maintain after the

intervention is ceased (Skinner et al., 2002). Further research is therefore necessary for teasing apart the reasons for this lack of maintenance and for ways to encourage long-term change.

An updated alternative to PPR, called "Tootling," has also demonstrated significant effects on classroom peer relationships in the literature. Tootling is similar to PPR in design but involves a few key differences that have since made it more popular for use at the classwide level. Instead of students concentrating their attention on only one student (or a select few students) at a time, and receiving rewards based upon that, tootling classrooms are those in which all students report on the positive behaviors of all other students (Skinner et al., 2002). The term "tootling" itself comes from the push to foster positive classroom climates and instead of the age-old action of "tattling," it stresses the approach for students to do so from a standpoint of good intentions and for good reasons instead of negative ones (Cihak, Kirk, & Boom, 2009). Students are in effect, "tooting" each other's horns by operating as whistle-blowers for positive social behaviors. Tootling, as opposed to PPR alone, also incorporates an additional unique component in the delivery of reinforcement to the class. Specifically, tootling classrooms utilize an interdependent group contingency through which all students receive reinforcement (Skinner et al., 2002) for tootling on others. For each day tootling is implemented, students attach an index card or sheet to their desks that serves as a reminder to do the task throughout the day. Whenever a student notices another student engaging in helping, rule-following, or prosocial behaviors, they write the action down on their notecard and save it for later. At the end of the school day, the entire class turns in their index cards to the teacher, who then tallies the total number of tootles recorded across the whole class.

The following morning, the teacher meets with her class to announce the total number of tootles from the day before. The intent of the morning meeting is for the teacher to provide

feedback on the process to the class, while also allowing for the modeling and reiteration of the types of behaviors students should be looking for throughout each day. Teachers can, for example, read off responses from the day before to the class or can engage in live-action tootling during the meeting for the benefit of the students. If the class meets a pre-set goal for total number of tootles, they all receive a reward. Goal criteria for receiving reinforcement can be modified as necessary and the types of rewards delivered to the class can also vary according to the reinforcing value of the rewards. Similar procedures to the one described above have been used for implementing tootling interventions in many different independent investigations, examples of which can be further described in Skinner et al. (2002), Cihak et al. (2009), and most recently, Lambert, Tinstrom, Sterling, Dufrene, & Lynne (2015).

Tootling, like PPR, has led to measurable changes in a variety of school outcomes throughout numerous empirical investigations. For example, implementing the tootling intervention with groups of third grade elementary students resulted in an immediate decrease in problematic classroom behaviors for students both with and without disabilities (Cihak et al., 2009), effectively establishing a functional relationship between its use for decreasing these behaviors. Similar findings have been uncovered in other investigations of the use of tootling across a wide range of school-aged youth (i.e., from preschool to middle school; Skinner et al, 2002). More recently, Lambert and colleagues (2015) found that implementing tootling at the classroom level resulted in significantly lower levels of classwide disruptive behaviors, including students out of seat, shouting out, and inappropriate use of objects during instructional time, with effect sizes revealing moderate to strong effects that were maintained at follow-up. However, despite the demonstrated effects and positive outcomes related to tootling interventions, few

studies have empirically investigated student and teacher subjective experiences following tootling interventions. The current study was an attempt to change that.

1.7 Purpose of the Current Study

Research has clearly demonstrated the beneficial impact of close school relationships on student performance across a wide range of outcomes (e.g., student engagement, academic achievement, disruptive behavior). There are clear benefits to improving these relationships in the school setting and most proponents of school system-level change emphasize fostering these connections as a part of their approach. Various studies have provided suggestions for ways to address improving these relationships, but few intervention studies have been conducted in a group-design format, targeting an entire classroom of students rather than intervening at the individual level. This study intends to address this gap by intervening at the classroom level and acknowledging strategies to foster positive outcomes for an entire group of students in a method that is deemed feasible, acceptable, and not resource-intensive by teachers.

While the literature is extensive in the area of school relationships, research is currently lacking related to specific interventions designed to also foster improvements in other relationship-related constructs, such as subjective wellbeing. Further, the research that has been established in the area of gratitude interventions is also limited and in need of additional empirical investigation, particularly with youth. Interventions that can effectively improve relationship-related constructs and school-related wellbeing are especially relevant for students from low socioeconomic status backgrounds, or for those attending school in high-needs areas and prone to disadvantage. This study sought to investigate this further, by systematically manipulating and comparing strategies for promoting positive classroom climates and fostering relationships in a public urban school setting. Specifically, the current study investigated the

impact of a newly-designed strategy incorporating components of gratitude and praise, compared to a well-established tootling intervention which actively involves peers as agents of change, each further compared to a "business as usual" no-treatment control group on variables of school-based relationships, social and classroom behavior, and subjective wellbeing. The present study investigated the following five overarching research questions:

1. Does intervening at the classroom level lead to noticeable improvements in ratings of student and teacher perceptions of classroom relationships and student subjective wellbeing?
2. Does intervening at the classroom level lead to measurable changes in behavior, including teacher ratings of behavior and objective indicators of problem behavior, as assessed through changes in classroom weekly conduct grades and/or rates of office discipline referrals?
3. Is there a documented difference in the effectiveness of the proposed gratitude-based and tootling interventions on the outcome variables when compared to a no-treatment control?
4. Are any effects from the interventions maintained over time following implementation?
5. Are the two interventions equally perceived by teachers and students to be acceptable and appropriate for fostering a sense of community in the classroom?

CHAPTER 2
METHOD

2.1 Participants and Setting

Participants in the current study consist of general education elementary school teachers and students from third and fourth grade classrooms in two elementary schools in Baton Rouge, Louisiana. After obtaining Louisiana State University's Institutional Review Board (IRB) approval (see Appendix A), schools were recruited by first obtaining consent from building administrators. Two schools were selected to participate, including one public elementary school in a low-income area of the city, and one public charter elementary school targeted at students with reading-related disabilities from a variety of socioeconomic backgrounds. Once permission was obtained from school administrators, individual teachers were then recruited based on interest and willingness to participate in the study. Anticipating the use of multivariate statistical comparison across three groups and three time points, an a priori power analysis indicated a total sample size of 98 participants was required. In order to account for any variables impacting sample size throughout the study, a goal of 120 student participants was set by the researcher for recruitment.

A total of ten general education classroom teachers and their students across the two participating elementary schools agreed to participate in the study. Each student was provided with a parental consent form, and all students for whom parental consent and child assent were obtained were included in the study. Out of a total of 154 potential students, parental consent and child assent were obtained for 125 students, resulting in an 81.2% rate of consent and participation at the start of the study. However, one teacher opted out of the study mid-way through, due to challenges related to scheduling and maintaining integrity. Therefore, the final sample size consisted of nine classroom teachers and 113 third and fourth grade students.

The majority of participating teachers identified as female (88.9%) and predominantly as White, Non-Hispanic (66.7%). At the start of the study, teachers averaged 10.78 years working in the field (*SD = 14.19*, range = 1-37 years), and 88.9% reporting having a Bachelor's degree. Classrooms were fairly evenly split across the two participating schools, with 44.4% of teachers working at the public elementary school and 55.6% working at the local charter school. Three teachers worked with third grade students (33.3%), whereas six taught fourth grade (66.7%). Further demographic information for participating teachers is shown below in Table 1.

Table 1
Teacher Demographic Information

Category	*n*	%	Category	*n*	%
School			Gender		
Public	4	44.4%	Female	8	88.9%
Charter	5	55.6%	Male	1	11.1%
Condition			Race/Ethnicity		
Control	3	33.3%	White, Non-Hispanic	6	66.7%
Gratitude	3	33.3%	Black/African American	2	22.2%
Tootling	3	33.3%	Hispanic/Latino	1	11.1%
Grade Taught			Highest Education		
Third	3	33.3%	Bachelor's	8	88.9%
Fourth	6	66.7%	Master's	1	11.1%

As teachers were recruited, classrooms were randomly assigned to each of the three conditions (i.e., no-treatment control, gratitude intervention, or tootling intervention). This resulted in three classrooms assigned to each of the conditions, and 38 students (33.6%) in the control condition, 42 students (37.2%) in the gratitude intervention, and 33 (29.2%) in the tootling intervention. Students were distributed fairly evenly across schools and genders. The students identified predominantly as Black or African American (67.3%), and were mostly in the fourth grade (69%). The average age of participating students was 9.87 years old (*SD* = .996),

but ranged from 8-12 years old. Additional demographic information for participating students is shown below in Table 2.

Table 2
Student Demographic Information

Category	*n*	%	Category	*n*	%
School			Grade		
Public	53	46.9%	Third	35	31.0%
Charter	60	53.1%	Fourth	78	69.0%
Condition			Gender		
Control	38	33.6%	Female	49	43.4%
Gratitude	42	37.2%	Male	64	56.6%
Tootling	33	29.2%			
			Race/Ethnicity		
Age (years old)			Black/African American	76	67.3%
8	10	8.8%	White, Non-Hispanic	24	21.2%
9	30	26.5%	Hispanic/Latino	9	8.0%
10	42	37.2%	Asian	2	1.8%
11	27	23.9%	Other	2	1.8%
12	4	3.5%			

2.2 Measures

To evaluate the differential impacts of each intervention condition over time, this study used a variety of teacher-report and student self-report measures, assessing classroom behavior, student-teacher relationships, and student subjective wellbeing. Additional objective data was also collected as indicators of student behavioral change. Detailed descriptions of each of these measures are provided below.

2.2.1 Teacher Demographics Form. Teachers who consented to participate were first presented with a series of demographics questions on the Teacher Demographics Form, created for use in this study. Items on the form assessed participants' age, gender, ethnicity, years of teaching experience, and highest level of education completed. In addition, participants were asked what grade they taught and in which school they taught. A copy of the Teacher

Demographics Form can be found in Appendix B and the data obtained via this form was presented in Table 1 above.

2.2.2 Student-Teacher Relationship Scale – Short Form. Participating teachers completed the *Student-Teacher Relationship Scale – Short form* (STRS-SF; Pianta, 2001a) for each of the students in their classes as a measure of their perceived relationship with each child. The STRS-SF measures two distinct domains of this relationship: closeness and conflict. These two domains are derived from the larger three-domain STRS, and serve as a measure of teachers' self-reported perceptions of the degree of warmth, affection, and open communication in their relationship with a student (closeness), or the degree of difficulty and negativity in the student-teacher relationship (conflict). The STRS as a whole was developed with the intent of identifying relationships that may be in need of remediation and support. Additionally, the STRS also can and has been widely used as a way to evaluate improvements in teacher-student relationships over time (Pianta, 2001b, p. 1).

Internal consistency scores for the total normative sample were high for both closeness and conflict ($\alpha = .86$ and $\alpha = .92$, respectively; Pianta, 2001b, p. 21). However, alpha levels for the third factor, dependency, were lower ($\alpha = .64$), and therefore the developer recommends not using the dependency score alone. The standard STRS has been most extensively used with children in preschool through grade 3 (Pianta, 2001b, p. 4-5). Validity analyses have also supported the use of the STRS, showing evidence of fit for the three-factor model of closeness, conflict, and dependency (Pinata, 2001b, p. 25), with closeness and conflict together accounting for the majority of the total variance (42.7% of the total 48.9% accounted for). Additionally, extensive evidence outlined in the STRS professional manual demonstrates strong support for both concurrent and predictive validity (Pianta, 2001b, p. 27-30). Comparisons of the STRS and

other commonly used measures of classroom problem behavior (e.g., Achenbach Teacher-Report Form (TRF); Student Strengths and Difficulties Questionnaire (SDQ); Pianta, 2001b, p. 30; Fowler, Banks, Anhalt, Der, & Kalis, 2008) revealed only low to moderate correlations, providing support for discriminant validity of the STRS.

In subsequent research, the STRS-SF was developed as an abbreviated alternative to the original STRS, assessing teacher-reported levels of only closeness and conflict with each student in their class. The revised short form consists of 15 Likert scale items, assessing the degree of applicability each statement is to their current relationship with an individual child (1 = *definitely does not apply* to 5 = *definitely does apply*). Closeness is a measure of the level of warmth exchanged and open communication between teachers and individual students (e.g., "This child openly shares his/her feelings and experiences with me"). The conflict measure, on the other hand, is an index of the degree of negativity and antagonism in the student-teacher relationship (e.g., "This child easily becomes angry with me"). The overall scores from the closeness and conflict scales can be combined to produce an overall relationship quality score, with higher scores indicating better relationships. The STRS-SF has been widely used with both a preschool and upper elementary population, each time demonstrating consistent levels of reliability and validity (e.g., O'Connor et al., 2011). Further analyses with diverse populations of students (i.e., international samples, urban samples, and upper elementary ages) have found the two-factor structure of closeness and conflict assessed across 15-items to fit best (Drugli & Hjemdal, 2013), and to further demonstrate reliability and validity with these samples (e.g., Fowler et al., 2008).

All ten participating teachers, across all three experimental conditions completed the STRS-SF for each student in their classes at three time points. The scale was initially filled out prior to intervention implementation to establish a baseline and a point of comparison once the

intervention conditions began. Teachers then completed the STRS-SF again after the intervention period (or once the control time period had passed) to assess for any immediate effects of the interventions on teachers' perceived relationships with their students. Teachers assessed these relationships using the STRS-SF one final time one to two weeks following the end of the intervention period to assess for stability in the changes in the relationship status. A copy of the STRS-SF can be found in Appendix C.

2.2.3 Brief Behavior Rating Scales. Participating teachers also completed a set of brief behavior rating scales (BBRS) on each participating student in their class. BBRSs were developed with the intention of creating and providing an alternative progress-monitoring tool for measuring the outcomes of behavioral interventions (Gresham et al., 2010; Cook, Volpe, & Delport, 2014), that is technically adequate, efficient, and sensitive to changes over time. Gresham and colleagues (2010) developed a specific BBRS using items pulled directly from the Social Skills Rating System (SSRS; Gresham & Elliott, 2008) and further investigated the technical adequacy of the developed scale. Analyses resulted in a 12-item, psychometrically sound BBRS, with individual items from the social skills, problem behavior, and academic competence domains (Gresham et al., 2010). The scale's reliability coefficients exceeded .70 and also revealed strong correlations with the SRSS teacher-report Total Problems, Social Skills, and Problem Behaviors scales ($r > .5$; Cook, Volpe, & Delport, 2014). Further support for using the BBRS was outlined by Cook and colleagues (2014) indicating that teachers have also rated the use of BBRSs as acceptable, feasible, and effective for frequent use (Cook et al., 2014).

Therefore, participating teachers in this study completed the BBRS created by Gresham and colleagues (2010) as a measure of the effects of the intervention conditions on classroom behaviors. Items assessed a variety of behaviors, including students' frequency of following

teachers' directions, distracted and disruptive behavior, responding appropriately to conflict with peers, engaging in activities, and behaving prosocially and cooperatively with peers. Teachers completed the BBRS for all students in their classes at the same three time points as outlined above: pre-intervention, post-intervention, and at follow-up. The specific BBRS used in this study can be found in Appendix D below.

2.2.4 Student Subjective Wellbeing Questionnaire. To measure self-reported subjective wellbeing, students complete the *Student Subjective Wellbeing Questionnaire* (SSWQ; Renshaw et al., 2015). The SSWQ is composed of 16 items, each scored on a four-point Likert scale (from 1 = *almost never* to 4 = *almost always*), which assess four school-specific domains of wellbeing, including: (a) School Connectedness, (b) Academic Efficacy, (c) Joy of Learning, and (d) Educational Purpose. The authors define School Connectedness as the extent to which students feel as though others in their school care for and relate to them; Academic Efficacy as the extent to which students consider their own academic behaviors as meeting environmental demands; Joy of Learning as the extent to which students find positivity, both emotionally and cognitively, when engaged in academic tasks; and Educational Purpose as the extent to which students find their school and academic tasks as essential and meaningful (Renshaw et al., 2015).

Preliminary data suggests that the SSWQ is both a theoretically and psychometrically sound instrument for the purposes of screening and monitoring progress. In a study of 1002 students in grades 6-8 in an urban city in the South, the measure demonstrated sufficient construct reliability and internal consistency outcomes for both the overall scale ($\alpha = .86$) and for each of the four subdomains ($\alpha = .72$ and up; Renshaw et al., 2015). Strong associations were also found between the SSWQ and other wellbeing measures, demonstrating initial convergent validity. Technical adequacy of the SSWQ was later replicated with an additional sample of

middle school students in grades 6 and 7 (n = 438; Renshaw, 2015). Use of the SSWQ with younger populations of students has been limited up to this point. However, recent unpublished research extending its use with a small sample (n = 65) of upper elementary students in grades 3-5, found adequate internal consistency levels for the scale, and consistent scores for students across grades and genders (Steeves et al., 2015).

In the present study, students completed the SSWQ at pre-test, post-test, and at the same follow-up. This was in an effort to obtain data regarding any effects that intervention conditions may have on student self-reported levels of school-related wellbeing. A copy of the SSWQ can be found in Appendix E.

2.2.5 Social Emotional Health Survey – Primary. The *Social Emotional Health Survey – Primary (SEHS-P),* formerly titled the *Positive Experiences at School Scale* (PEASS; Furlong et al., 2013*),* was also administered to students to further assess levels of subjective wellbeing. The SEHS-P is a 16-item measure of four domains of subjective wellbeing: school Gratitude, Zest, Optimism, and Persistence. Each item is scored on a four-point Likert scale (from 1 = *almost never* to 4 = *very often*). Combined scores from all four domains provide an overall score of student "Covitality," or the overall subjective experience of wellbeing that results from the multiple co-occurring school-related positive psychological traits (Furlong et al., 2013).

Preliminary psychometrics for the SEHS-P were determined by administering the scale to 1,995 students in grades 4-6 across 26 schools in Central California. Confirmatory factor analyses were conducted, demonstrating that the 16-item, four-domain factor structure was the most psychometrically sound. Analyses also yielded adequate internal consistency reliability coefficients for the overall scale (α = .88) and subdomains (α = .66-.76; Furlong et al., 2013). Concurrent validity data was also collected, demonstrating scores on the SEHS-P are

significantly positively related with self-reported prosocial behavior, school acceptance, and accepting relationships, and significantly negatively correlated with feelings of school rejection (Furlong et al., 2013). Recent research further investigating the use of the SEHS-P with an upper elementary sample of students in grades 3-5, also found comparable results of internal consistency for the overall scale ($\alpha = .82$; Steeves et al., 2015), despite the small number of students surveyed. Domain scores, however, yielded smaller alpha coefficients than in the previous study, which are hypothesized to be due to the limited number of students. Since initial analyses were conducted, additional data was collected to expand the number of students in the sample results of these analyses indicate promising psychometric data supporting its use as a quick and feasible tool for schoolwide screening or progress monitoring (Furlong et al., 2013; Steeves et al., 2015).

Adding the SEHS-P as an additional outcome measure in the current study was done in an attempt to provide more information about students' attitudes towards school, and which areas in particular were amenable to change based on simple classroom-based interventions. Students in the current study completed the SEHS-P at the same times in which they complete the SSWQ. A copy of the version of the SEHS-P utilized in this study can be found in Appendix F.

2.2.6 Office discipline referrals. Office discipline referrals (ODRs) were also collected as an objective measure of students' problem behavior in school. In many schools, students receive ODRs from school staff for problem behaviors that may interfere with the educational environment. These behaviors can be major disruptive behaviors, such as physical aggression or property damage, or for repeated, more "minor" behavior problems such as defiance or noncompliance to teacher directives. Referrals of this nature are typically collected as a part of routine behavior management in schools, and records of such violations are usually recorded in a

student's permanent file. These records then provide quantifiable data on the types of behavioral violations for a student, class, or school as a whole. Throughout the duration of the current study, ODRs were collected and tallied at distinct weekly time points for all participating students in an attempt to gain a representation of classwide problem behavior and to detect any potential changes in the levels of disruptive behavior across each class. ODRs were collected specifically at three time points, aligning with the collection of questionnaire data: prior to implementing the intervention, at the conclusion of the intervention period (i.e., at the end of week three), and at the end of the follow-up time period.

2.2.7 Weekly conduct grades. In addition to ODRs, weekly classroom conduct grades were collected for all participating students as a supplemental measure of classroom behavior over the course of the study. Classroom teachers typically assign conduct grades to all students based upon their individual classroom behavioral conduct (i.e., levels of participation, following classroom rules, etc.), and work habits (i.e., completion of assigned work, attentiveness, etc.). Both schools collected weekly conduct grades, but this data was collected in different manners. Teachers at the public elementary school tallied the number of rule infractions and applied letter grades to students based on the number of infractions they received throughout each day (e.g., 0-2 checks translated to an "A" grade). The teachers in the charter school collected the same data of their students, but did not assign daily letter grades and instead put this data into an overall classroom management system for the week. In order to analyze the data consistently across both schools and all classrooms, the researcher converted all objective classroom behavior data to the same letter grade system utilized by the public school. These grades were collected on a weekly basis on Friday afternoons for all students. Like the collection of ODRs, data was recorded

during the week prior to implementing the intervention, at the conclusion of the intervention period (i.e., at the end of week three), and at the end of the collection of the follow-up data.

2.2.8 Usage Rating Profile – Intervention (Revised). The *Usage Rating Profile – Intervention (Revised;* URP-IR; Chafouleas, Briesch, Neugebauer, & Riley-Tillman, 2011) is a 29-item self-report measure intended for use in understanding intervention implementation and social validity of treatment approaches in schools. The URP-IR scale broadly assesses perceived usability of interventions, including the areas of acceptability, feasibility, understanding, and collaboration. Items are rated by teachers on a 6-point Likert scale indicating their degree of agreement with each statement (from 1 = *Strongly Disagree* to 6 = *Strongly Agree*).

In a study to validate and improve the original URP-I, Briesch, Chafouleas, Neugebauer, and Riley-Tillman (2013) analyzed its usage with a sample of 1,005 elementary school teachers across the United States based on a vignette of a common classroom behavior intervention. Findings from the resulting confirmatory and exploratory factor analyses, along with reliability analyses, supported the resulting 29-item scale with subdomains in six areas including: Acceptability, Understanding, Feasibility, Family–School Collaboration, System Climate, and System Support. Four of the six areas were of particular interest in this study, including: intervention acceptability, the level of understanding related to intervention implementation, the feasibility of implementation, and the perceived requirement of external support in order to implement the intervention (System Support). Teachers in the two intervention conditions of the present study completed the associated items for the four domains of interest on the URP-IR for either the gratitude intervention or the tootling intervention prior to intervention implementation. The same teachers again completed the corresponding URP-IR at the end of the initial data

collection period to assess for changes in perceptions of acceptability after they had implemented each intervention. A copy of the measure can be found in Appendix G below.

2.2.9 Children's Intervention Rating Profile. The *Children's Intervention Rating Profile* (CIRP; Turco & Elliot, 1986; Adapted from Witt & Elliot, 1985) is a widely used and adapted measure of student's perceived acceptability of interventions utilized in schools. The original CIRP contains seven items, each assessed on a 6-point Likert rating scale ranging from 1, meaning, "*I agree"* to 6, meaning, "*I do not agree."* Turco and Elliot (1986) analyzed the internal consistency reliability of the CIRP with 146 fifth through ninth grade students, resulting in a Cronbach's alpha of 0.75, indicating acceptable levels of internal consistency reliability. Since it's original construction, the CIRP has been modified and used in numerous studies, each specifically designed to fit the specified intervention and the age and developmental level of the children completing the ratings, without sacrifice of reliability. An original version of the CIRP (Witt & Elliott, 1985) was modified for use in this study and can be found in Appendix H. Students in both intervention conditions completed corresponding versions of the CIRP. Initial completion of the CIRP took place after the administration of the baseline questionnaires after an explanation of the study procedures and the intervention to which they were assigned. Students later completed the CIRP a second time, after the end of the 15 days of intervention, during the post-test administration of questionnaires.

2.2.10 Treatment integrity checklists. Teachers in each intervention condition (gratitude and tootling interventions) completed separate treatment integrity checklists at the end of each day during the fifteen days of intervention implementation. The researcher also completed the same treatment integrity checklist during the morning meeting portion of the interventions on two separate occasions in each intervention classroom. The treatment integrity

checklist was designed to indicate the degree to which each teacher implemented each component of the designated intervention or the extent to which the teacher assisted the students in the implemented components as planned. A copy of the gratitude treatment integrity checklist can be found in Appendix I, while a copy of the tootling treatment integrity checklist can be found in Appendix J.

2.2.11 Permanent products. To further encourage the consistent implementation of each intervention, teachers were provided with a designated sheet to serve as a permanent product and record of the intervention implementation. The "Gratitude Note Record Sheet" was created specifically for teachers implementing the gratitude intervention condition, and provided space for recording the completion and delivery of gratitude notes to every student in their class each week. A copy of this can be found in Appendix K. Likewise, the "Tootle Daily Record Sheet" was created for teachers implementing the tootling intervention, and provided designated space for recording the date and number of tootles the class created each day throughout the intervention. A copy of this tootling daily recording sheet can be found in Appendix L.

2.3 Procedure

2.3.1 Recruitment, consent, and assent. Prior to recruitment and data collection, the proposed study was submitted for approval from LSU's IRB. Once IRB approval was obtained, the researcher contacted administrators at local elementary schools to determine interest in and obtain consent for participation in the study. Once administrators provided their consent for classrooms in their school to participate (see Appendix M for a copy of the administrator consent form), individual teachers were recruited to participate. Classroom teachers who showed interest in participating were provided with an informed consent document (see Appendix N), outlining the procedures of the study, specific obligations and steps for participating teachers and students

in each of the intervention or control groups, the potential risks and benefits associated with participating, and an explanation of the random assignment and no-treatment control procedures. Once informed consent was obtained from interested teachers, parental consent was sought for every student in each classroom. Once parental consent was obtained, students were then provided with an explanation of the study by the researcher and their individual assent was also obtained. A copy of the parental consent document utilized in the current study can be found in Appendix O, whereas a copy of the child assent document can be found in Appendix P. Only students who received parental consent and also assented to be included in the study were part of the data collection and analysis.

2.3.2 Independent variable. The current study utilized a quasi-experimental repeated measures design in order determine any differential effects on the above measures related to each intervention condition. There were three levels of the independent variable, with three classrooms of participants in each of the three conditions: (1) a no-treatment control group, (2) a gratitude-based classroom intervention, and (3) a positive-peer reporting tootling classroom intervention. Both intervention conditions were designed to explicitly target classroom relationships in an actively engaging manner. Following random assignment of classrooms to intervention conditions and the initial baseline data collection phase, teachers were trained on the intervention procedures specific to the condition in which they were assigned, and students were introduced to the procedures as well. Each intervention was then implemented daily for a period of three weeks, or 15 school days of intervention. Each condition is subsequently described in further detail below.

Gratitude-based classroom intervention. The gratitude-based intervention consisted of two distinct components, each adapted from previous literature and created specifically for use in

this study. All intervention components were aimed at improving various aspects of the previous interventions, while also promoting connections among the members of the class, and focused on promoting students' appreciation for school in a feasible format for teachers. The initial part of the gratitude intervention design was based upon and adapted from other similar positive psychology interventions (Akhtar & Boniwell, 2010; Froh et al., 2008; Seligman et al., 2005). This first element utilized was the group component of the Akhtar and Boniwell (2010) study as outlined above. Each morning, in a manner similar to the "Three Good Things" (Seligman et al., 2005) and "Counting "Blessings" (Froh et al., 2008) interventions, each student took turns "appreciating the good things" in their schools. Specifically, taking the approaches from these studies and applying them to the school setting, teachers in the gratitude intervention condition led daily morning meetings with their students, where they modeled the process of making gratitude statements aloud for the class. Then the teacher facilitated a brief meeting during which students also took turns listing three good things, or three things they were thankful for, which had taken place in the last day at school. This was done in an attempt to encourage and facilitate grateful thoughts at the start of the school day and to foster a sense of open communication and happiness among the class.

The second component of the gratitude intervention involved a teacher praise intervention consistent with the teacher praise notes described in the introduction and utilized by Kennedy and colleagues (2014). Adding this component to the intervention specifically targeted the relationship between the teacher and individual students, and allowed each teacher to model praise and appreciation for their students. During the final class period of each day of intervention, teachers wrote individualized notes to students, thanking them for something specific they had done that day. Thank-you notes were written on designated "Thank You" note

pads provided by the researcher. Teachers then recorded the delivery of the note on the "Gratitude Note Record Sheet" and ensured that each student in the class received at least one gratitude note each week.

Tootling classroom intervention. The positive-peer reporting tootling intervention was implemented concurrently in three separate classrooms, and also consisted of two distinct components, each based upon the previous literature and aimed at promoting connections among the members of the class. Specifically, literature surrounding the effectiveness and design of tootling interventions (Skinner et al., 2002; Cihak et al., 2009) were utilized in this study. Specific procedures followed the components outlined by Skinner and colleagues (2002) and alternatively explained in the introduction of this paper. Namely, the first component of the intervention is the implementation of daily classwide morning meetings, in which the teacher reviewed the tootling data from the day before, read off samples of the tootles that were recorded, provided praise for well-done tootles, provided opportunities to practice tootling procedures, and reviewed the class' overall progress. Teachers also recorded the total number of tootles each day of intervention on the "Tootle Daily Record Sheet."

The second component of the tootling intervention incorporated students as the specific agents of change. Students were provided with note cards to keep on their desk throughout the day and were trained to actively look out for and record positive behaviors other students engaged in throughout the day. At the end of the day, all students turned in their tootle cards to their classroom teacher. These key features of the tootling procedure are outlined explicitly in Skinner et al. (2002) and can also be seen on the integrity checklist in Appendix J.

No-treatment control condition. Teachers and students in the three control classrooms completed the measures at the same time as participants in both experimental conditions, but did

not receive intervention training or implementation until the data from the follow-up has been collected. Following preliminary analyses, classroom teachers interested in receiving either intervention were provided with the training and materials to implement either intervention condition at their leisure. Due to the limited amount of time at the end of the intervention period before the end of the school year, it was not feasible to conduct subsequent intervention and data collection for the control classrooms, but the researcher did ensure that teachers received useful information and preliminary results at the conclusion of the study.

2.3.3 Data collection. Data collection began with the administration of the first round of teacher and student questionnaires (T1). Administration of questionnaires to all students took place in each classroom over a period of approximately an hour. During administration, the researcher distributed a packet of questionnaires to each participating child with parental consent, read the instructions and items on each aloud to all students, and assisted with questions as necessary. Doing so ensured all students encountered the questionnaires in the same manner, regardless of reading ability, while also providing the opportunity for the researcher to consistently troubleshoot any concerns. Teachers were also asked to complete their packet of questionnaires during the same calendar week. Additionally, the researcher collected all students' conduct grades and the total number of ODRs for each class at the end of the same calendar week. Immediately following the conclusion of 15th day of intervention implementation, questionnaires were administered again in each participating classroom in the same manner to evaluate any changes over time (T2). Follow-up data was collected for as many classrooms as possible one to two weeks following the collection of the post-intervention data (T3) to assess for maintenance of the intervention effects after the cessation of the interventions.

2.3.4 Treatment integrity and inter-observer agreement. To ensure that the procedural components of each intervention condition in the proposed study were carried out as intended, measures of treatment integrity were collected throughout implementation. Once teachers had been trained on the intervention components of their assigned condition and were given the opportunity to practice the intervention with feedback, data collection began. During data collection, to assess treatment integrity, teachers filled out self-report integrity checklists. Each teacher completed the treatment integrity checklist daily as a reminder of the various steps and components of their assigned intervention. These were then placed in a designated folder at the end of each day and collected each week by the researcher.

Additionally, integrity checklists were completed during supplemental observations by a trained observer (i.e., the primary researcher or another trained graduate student clinician). These IOA sessions served as an opportunity for direct assessment of procedural integrity through observation of intervention implementation fidelity. The treatment integrity checklist indicated the degree to which the teacher implemented the intervention as planned. The resulting percent of agreement between the observer and the teacher yielded an IOA percentage. IOA observations were conducted for a random 13% of intervention sessions (i.e., two days out of the 15 days of implementation). Throughout the course of the intervention period, and upon review of the integrity checklists, the researcher determined which teachers, required performance feedback related to integrity components. If integrity dropped below an acceptable level of 80%, the researcher assessed what may have caused the drop in integrity and those teachers were automatically provided with performance feedback and/or additional training on the intervention procedures as necessary.

2.4 Data Analysis

2.4.1 Missing data. Prior to data analysis, a thorough check of the data was conducted to ensure accurate statistical calculation. Each individual piece of data and rating scale was entered and then checked twice for accuracy. Data was then analyzed for the existence of missing data or missing values. No data were missing from either the baseline or post-test time points, with the exception of the self-report values from two English as a Second Language (ESL) students. Because of the language barrier and the heavy verbal loading on the SSWQ and SEHS-P, these students could not reliably complete the self-report rating scales, and were therefore excluded from analysis of the self-report data. This resulted in an overall *n* of 111 for student self-report measures at T1 and T2.

Despite having no missing data from the T1 or T2 results, a substantial amount of data was missing from the follow-up data point due to unforeseen circumstances during the research project. Specifically, one classroom teacher participating in the gratitude intervention condition waited several weeks before beginning the project and skipped several days in between intervention days throughout the remainder of the 15-day intervention period. This resulted in the last day of intervention falling during the last week of school. Consequently, collecting follow-up data was not possible with her classroom of students. Eight other cases of data were missing from the self-report scales, which were also participants in the gratitude intervention condition (four from each of the other two gratitude classrooms). These eight students were absent the last week of school during the administration of T3 questionnaires, resulting in the inability to collect this data as well.

According to Schlomer, Bauman, and Card (2010), there is some disagreement regarding the extent to which missing data becomes problematic in data analysis and interpretation.

However, it is clear that the T3 data is missing at a level that cannot be ignored and therefore, analysis cannot be reliably completed. A total of 23 student-report questionnaires were missing out of the 42 participating gratitude students, equating to more than 54% of the data. Additionally, 35% of the teacher-report data was missing from the T3 data point for the gratitude condition. While less was missing from the T3 data for the tootling condition, there were still several students who were absent during the final week of data collection. As a result, student self-report data and teacher-report data was missing for 7 of the 33 students in the tootling condition, equating to 21% of the participants in this condition. These percentages are also clearly too high to utilize any imputation methods (Schlomer et al., 2010). While disappointing and unexpected, the inability to reliably analyze the follow-up data required a shift in the method of data analysis for the overall project. Rather than analyzing the data across three time-points, results were instead analyzed to uncover changes in the dependent variables from T1 to T2 as a function of each level of the intervention condition.

2.4.2 Descriptive statistics and initial data exploration. Once data was deemed accurately entered, and the method for handling cases of missing data from the follow-up assessment was chosen, initial descriptive statistics were calculated to quantify and clarify the nature of the demographic data and initial baseline data. Following the calculation of descriptive statistics for the various participants and measures at baseline, a series of exploratory independent samples *t*-tests were conducted in order to assess for any significant differences in T1 data as a function of three demographic variables. T1 data was assessed for any significant differences based on grade, gender, or school. No significant differences were found between genders, grade levels, or school membership on any of the T1 data, suggesting that initial levels of student subjective wellbeing and teacher-reported relationships and behavior problems did not

differ according to whether student participants were male or female, in third or fourth grade, or attended different schools. These results were promising, as they indicated there was no need to use grade, gender, or school as a covariate in the data analysis.

2.4.3 Exploring multivariate assumptions. Prior to running the multivariate analyses, the dataset was evaluated for the assumption of normality, the existence of outliers, homogeneity of variance and covariance, the absence of multicollinearity and singularity, and the linearity of the data. The assumption of normality, the absence of outliers, and the linearity of the data were evaluated via visual inspection of plots and by examining standardized values of skewness and kurtosis (Field, 2009; Tabachnick & Fidell, 2013). In the vast majority of cases, the assumption of normality was met. Only a few variables appeared to be non-normally distributed, and despite a slightly negative skew, the multivariate analysis utilized in the current study has been considered to be robust to such a violation of normality, given the sample size used in all analyses (Tabachnick & Fidell, 2013, p. 253). Given the number of variables in the current study, it stands to reason that several variables may produce curvilinear relationships. Tabachnick and Fidell (2013) recommend in this case that the researcher weigh the options for transforming the data against the increased complexity in interpretation and the associated increase in power (p. 254). The authors also discuss that when the variables under investigation are skewed to a similar degree, the improvements provided by transforming the data are often marginal (Tabachnick & Fidell, 2013, p. 87), and other accounts of transformations have hindered data analysis as much as they have helped on occasion (Field, 2009, p. 155-156). Therefore, the decision was made to analyze the results without engaging in any transformations of the data. The assumption surrounding equality of variances and covariances was assessed using Levene's test and Box's *M* test in the SPSS output (Field, 2009; Tabachnick & Fidell, 2013) for each multivariate test.

2.4.4 Multivariate statistics and univariate analyses. Eventually, the impact of the gratitude and tootling interventions was investigated using both within- and between-group analyses of a multivariate repeated measures design. To analyze changes in the levels of student subjective wellbeing both within and across conditions, a mixed-design Multivariate Analysis of Variance (MANOVA; Tabachnick & Fidell, 2013) was conducted using intervention condition as the between subjects IV and time as the within-subjects IV using the SPSS® software program. The four composite scores from each of the wellbeing scales (SSWQ and SEHS-P) were entered as DVs into two separate MANOVAs: (1) School Connectedness, Academic Efficacy, and Joy of Learning, Educational Purpose, and (2) Gratitude, Optimism, Zest, and Persistence. Wilks' Lambda served as the multivariate test statistic for the current study. For any significant main or interaction effects, post-hoc analyses were subsequently conducted to determine where the significant differences existed in the data. To control for the inflated error rate often associated with conducting multiple post-hoc analyses, Bonferroni corrections were applied to the analyses in SPSS®.

An additional MANOVA analysis was conducted to assess for changes in the level of teacher-perceived relationships both within and across conditions, using STRS-SF measures of closeness and conflict as dependent variables. Follow-up analyses with a Bonferroni correction were again conducted to further clarify the nature of the significant effects. It may be important to note the rationale for the decision to conduct MANOVA analyses as opposed to Multivariate Analysis of Covariance (MANCOVA; Tabachnick & Fidell, 2013) analyses using the baseline data as covariates. There is some disagreement in the field in regard to the best methods for statistically analyzing results of a research design that incorporates both within- and between-group independent variables. Based on a thorough review of the diverse options for multivariate

statistical methodology, as outlined by Tabachnick and Fidell (2013), it was determined that the best method for evaluating the data in the current study was with the use of mixed design or repeated-measures MANOVAs. Given the overarching hypotheses under investigation in the current study, the principal investigator was most interested in determining if there were any changes in the outcome variables within each group, with differences between groups at posttest as a secondary area of interest. Because the amount of missing data eliminated the use of the follow-up data in analysis, the within-subject IV only had two levels: baseline and post-test. Therefore, conducting a MANCOVA using T1 data as a covariate and analyzing differences in mean posttest scores across the three conditions would not necessarily provide the desired information given the nature of the updated design. Further, original G*Power calculations of required sample size were conducted with MANOVA analyses in mind. Recruitment and attrition, and the missing data during the follow-up data collection, resulted in a smaller final sample size than what would be required to have adequate power for MANCOVA analyses.

Once the data obtained from the STRS-SF was analyzed, student classroom behavior was also investigated for changes over time and differences across conditions. Tabachnick and Fidell (2013, p. 270) discuss weighing MANOVA and ANOVA when analyzing the impact on numerous DVs, particularly when those DVs are highly correlated. Conducing an MANOVA also reduces power (Tabachnick & Fidell, 2013), particularly with smaller sample sizes. As a result, a repeated-measures ANOVA was conducted with the total composite score from the BBRS in order to evaluate the overall change in behaviors as a function of intervention condition. A series of univariate ANOVAs were then completed utilizing the mean scores on each individual item on the teacher-reported BBRS. To control for the inflated Type 1 error rate, a conservative Bonferroni correction was applied, using the .004 as our criterion for significance

(Field, 2009, p. 373). Descriptive statistics were included in a table to compare results across conditions and items, even for non-significant findings in order to display the preliminary results. As objective measures of classroom behavior, weekly conduct grades and office discipline referrals were collected. Frequencies and descriptive statistics were utilized to quantify this data and compare both within and across the three intervention conditions.

Once the outcomes on the major dependent variables of interest were analyzed, a series of analyses were conducted to evaluate the acceptability of each intervention from the students' perspective over time and between intervention groups, utilizing the total score on the CIRP. Acceptability from the teachers' perspectives was also analyzed using scores from the URP-IR. Descriptive statistics were calculated and discussed in terms of levels of acceptability across the four domains assessed: acceptability, understanding, feasibility, and system support.

Treatment integrity was assessed using three distinct methodologies: (1) treatment integrity checklists, (2) permanent products, and (3) inter-observer agreement. Throughout the duration of the study, the researcher reviewed the self-reported integrity for all six teachers participating in the gratitude and tootling intervention conditions for the necessity of conducting performance feedback and troubleshooting challenges related to intervention implementation. However, after the completion of the study, the integrity checklists were further evaluated using percentages and descriptive statistics to determine the overall and average levels of implementation integrity within and across intervention conditions. Next, the researcher reviewed the completeness of the permanent products for both the gratitude teachers and the tootling teachers, and quantified this based on the individual nature of how this data was collected. Finally, throughout the course of the study, the researcher and another graduate student clinical conducted integrity observations with the intention of identifying the percentage of

agreement (IOA) between the observer and the teacher in the accurate and complete implementation of the intervention components.

CHAPTER 3
RESULTS

3.1 Student Subjective Wellbeing

A mixed-design, two-way MANOVA was conducted to test for intervention effects on student-reported levels of subjective wellbeing, as measured by scores on the SSWQ. Analysis revealed no significant main effects for time, $F(4, 105) = .691$, $p = .599$, partial $\eta^2 = .026$. There were also no significant differences between conditions on the combination of the SSWQ subjective wellbeing variables over time, $F(8, 210) = .588$, $p = .787$, partial $\eta^2 = .022$. Further analysis confirmed that there were also no significant interactions between groups over time on any of the individual reported SSWQ wellbeing variables, including school connectedness, $F(2, 108) = .888$, $p = .415$, partial $\eta^2 = .016$, academic efficacy, $F(2, 108) = .221$, $p = .802$, partial $\eta^2 = .004$, joy of learning, $F(2, 108) = .634$, $p = .532$, partial $\eta^2 = .012$, and educational purpose, $F(2, 108) = .404$, $p = .669$, partial $\eta^2 = .007$. Graphical depiction of the average overall scores for each scale at T1 and T2 is shown below in Figures 1-4. Mean scores, standard deviations, and the mean change values for each of the SSWQ domains across conditions are also shown in Table 3.

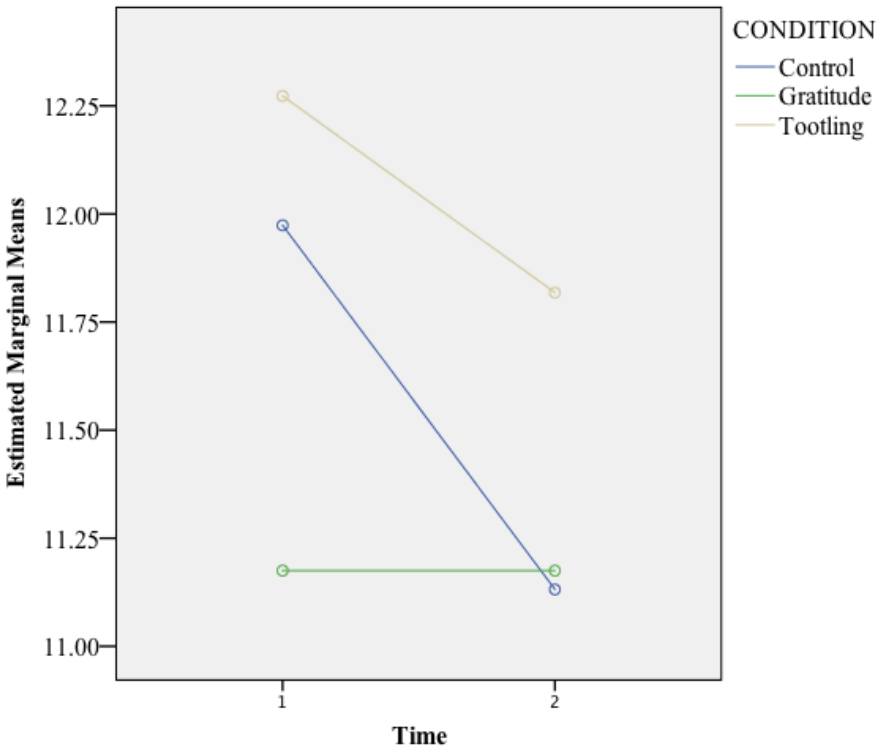

Figure 1. Estimated Marginal Means of SSWQ School Connectedness

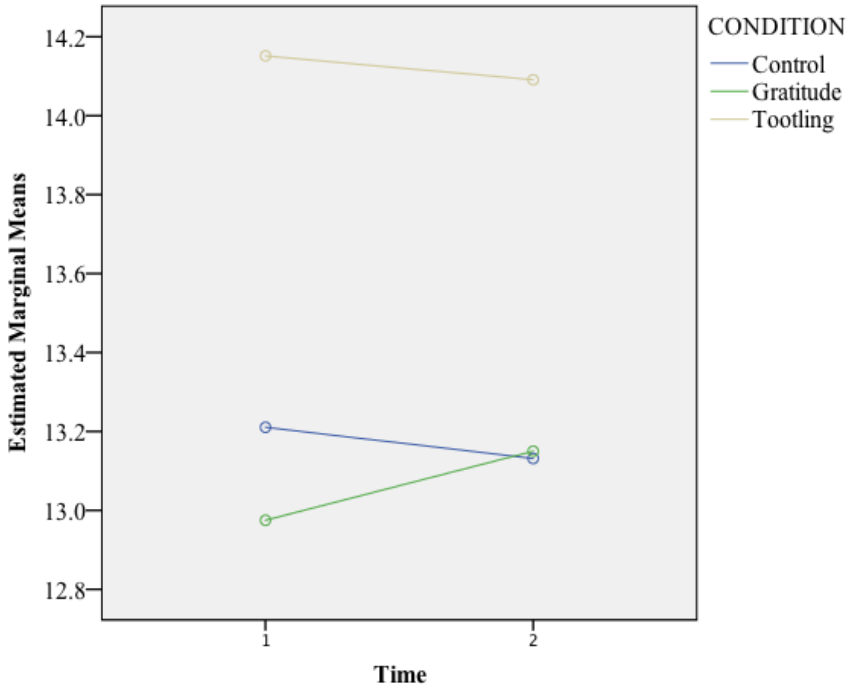

Figure 2. Estimated Marginal Means of SSWQ Academic Efficacy

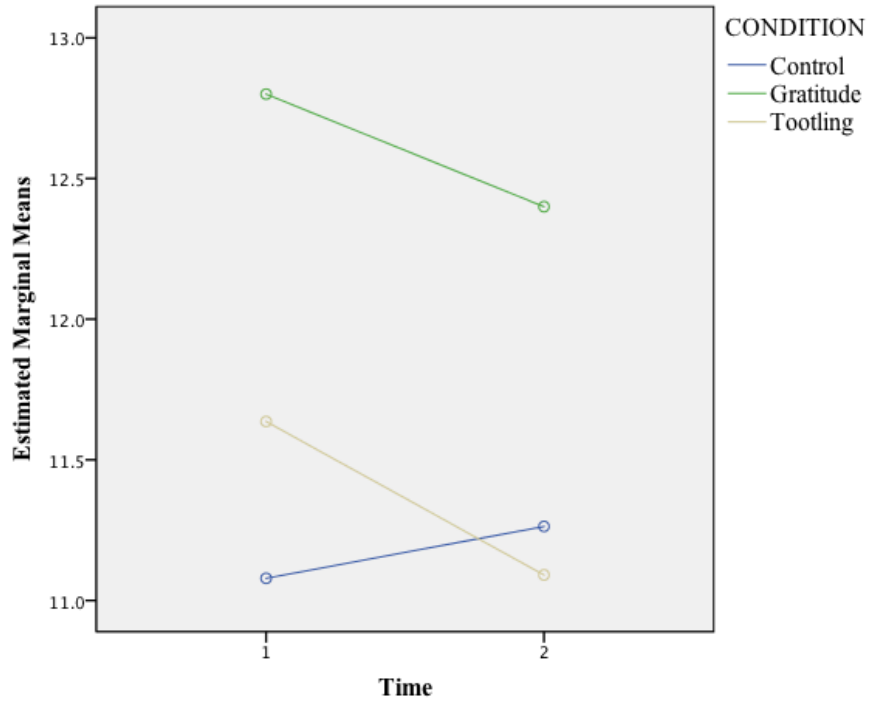

Figure 3. Estimated Marginal Means of SSWQ Joy of Learning

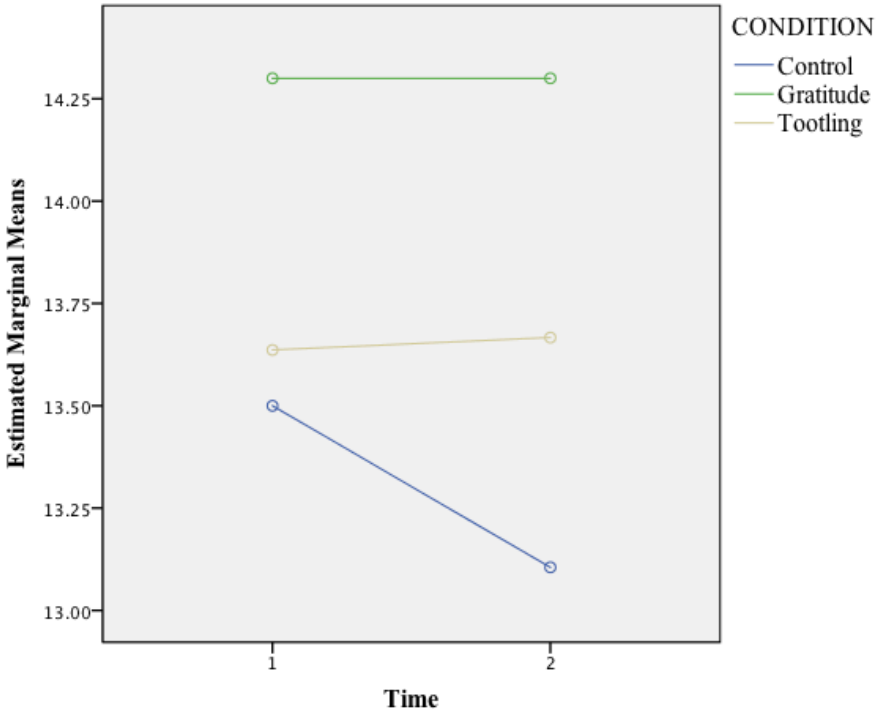

Figure 4. Estimated Marginal Means for SSWQ Educational Purpose

Table 3
Mean Scores for the Student Subjective Wellbeing Questionnaire (SSWQ)

Domain by Condition	Baseline		Post-Test		Mean Differences
	M	SD	M	SD	
Control Condition					
School Connectedness	11.97	2.77	11.13	2.57	-0.84
Academic Efficacy	13.21	2.50	13.13	2.24	-0.08
Joy of Learning	11.08	2.82	11.26	3.06	0.18
Educational Purpose	13.50	2.74	13.11	2.45	-0.39
Gratitude Intervention					
School Connectedness	11.18	3.47	11.18	3.75	--
Academic Efficacy	12.98	3.19	13.15	2.99	0.17
Joy of Learning	12.80	3.12	12.40	3.43	-0.40
Educational Purpose	14.30	2.20	14.30	2.37	--
Tootling Intervention					
School Connectedness	12.27	3.21	11.82	3.24	-0.40
Academic Efficacy	14.15	1.79	14.09	2.27	-0.06
Joy of Learning	11.64	3.63	11.09	3.79	-0.55
Educational Purpose	13.64	2.66	13.67	2.69	0.03

Note: Maximum scores across all domains on the SSWQ are 16. Higher scores represent greater levels of wellbeing.

A second MANOVA was conducted the same way utilizing scores on the SEHS-P as a secondary measure of student subjective wellbeing. The SEHS-P assessed levels of school-related gratitude, optimism, zest, and persistence. Overall analysis revealed a significant effect for time on the combined dependent variables, $F(4, 105) = 2.593$, $p < .05$, partial $\eta^2 = .090$. There was also a significant interaction between intervention condition and time on the combined dependent variables, $F(8, 210) = 2.029$, $p < .05$, partial $\eta^2 = .072$. A significant time by condition interaction was also found specifically for gratitude, $F(2, 108) = 3.894$, $p < .05$, partial $\eta^2 = .067$. Follow-up analyses using the Bonferroni correction for inflated error revealed a significant decrease in gratitude from baseline ($M = 14.16$, $SD = 1.966$) to post-test ($M = 13.08$, $SD = 2.283$), for students randomly assigned to the control condition, $t(37) = 2.748$, $p < .01$. The mean

change in levels of gratitude for each intervention condition was not significant. No significant interactions were found for the variables measuring optimism, $F(2, 108) = 2.044$, $p = .134$, partial $\eta^2 = .036$, zest, $F(2, 108) = .355$, $p = .702$, partial $\eta^2 = .007$, and persistence, $F(2, 108) = .502$, $p = .607$, partial $\eta^2 = .009$.

Further investigation revealed a significant effect for time on only the persistence dependent variable, $F(1, 108) = 4.878$, $p < .05$, partial $\eta^2 = .043$, indicating that student-reported feelings of persistence significantly increased throughout the intervention period, regardless of group assignment. However, follow-up comparisons revealed that this change in persistence was non-significant for students in each individual intervention condition, only for the overall sample. Student-reported feelings of gratitude, optimism, and zest did not change significantly. Graphical depiction of the average overall estimated means for each scale on the SEHS-P at T1 and T2 is presented below in Figures 5-8. Mean scores, standard deviations, and the mean change values for each of the SEHS-P domains across conditions are also shown in Table 4.

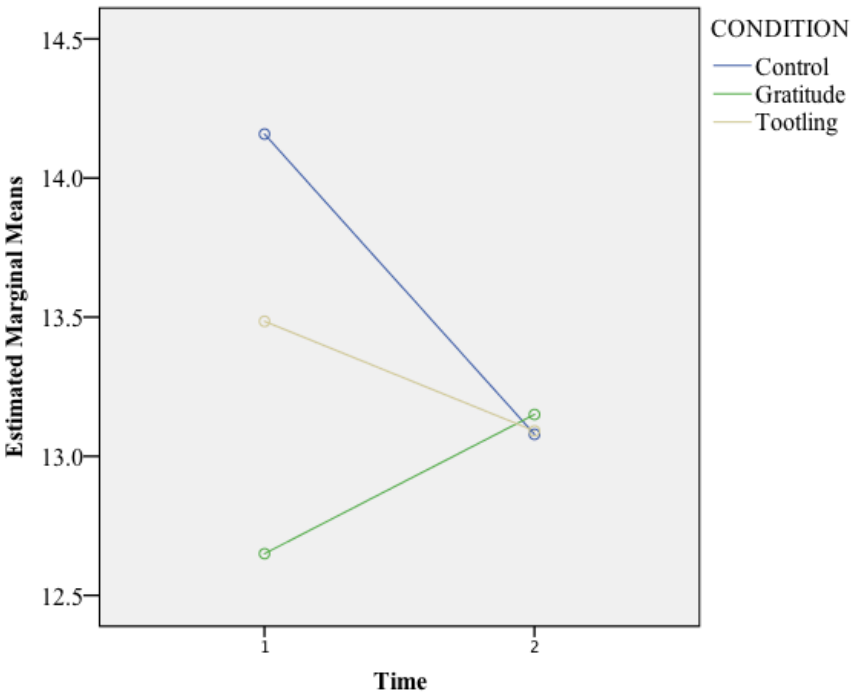

Figure 5. Estimated Marginal Means of SEHS-P Gratitude

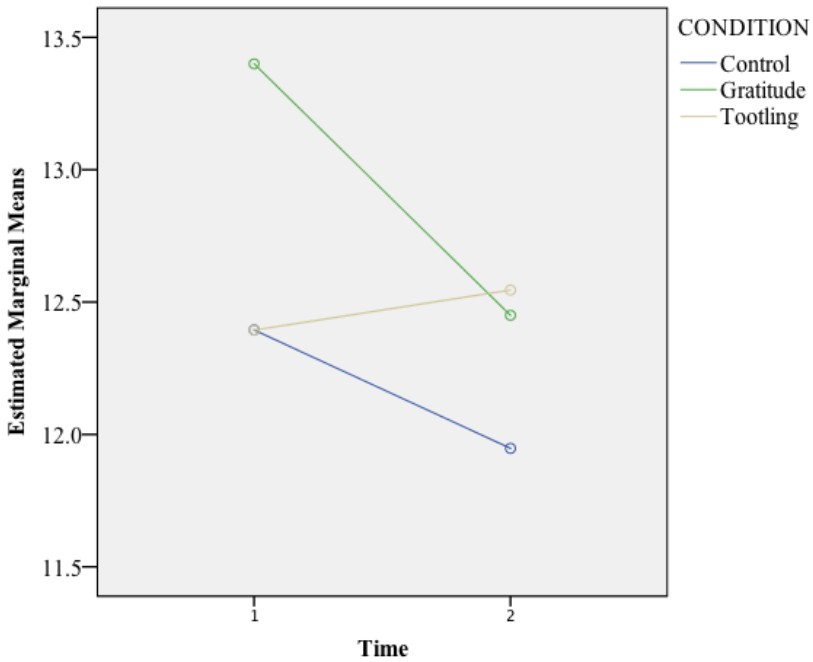

Figure 6. Estimated Marginal Means of SEHS-P Optimism

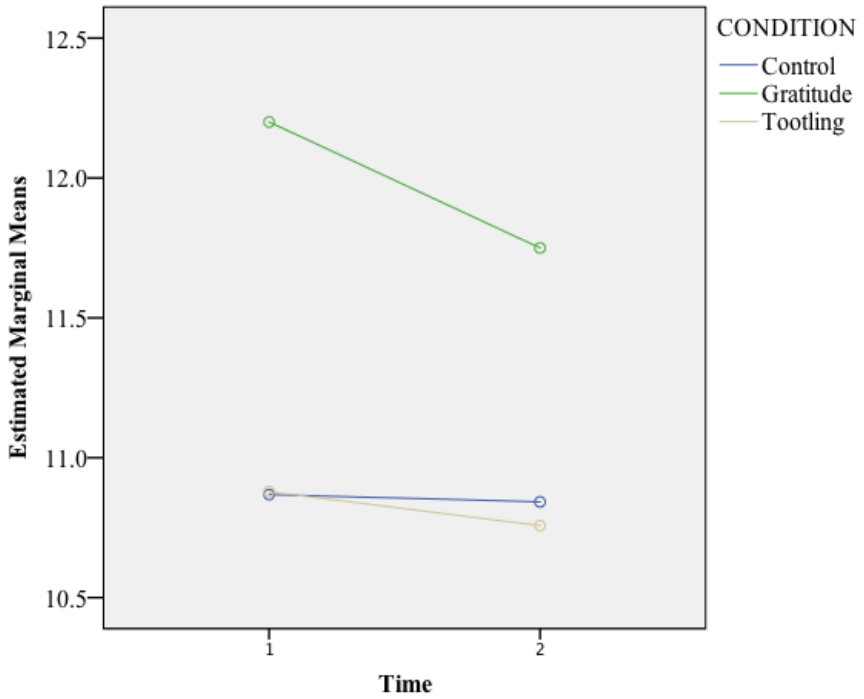

Figure 7. Estimated Marginal Means of SEHS-P Zest

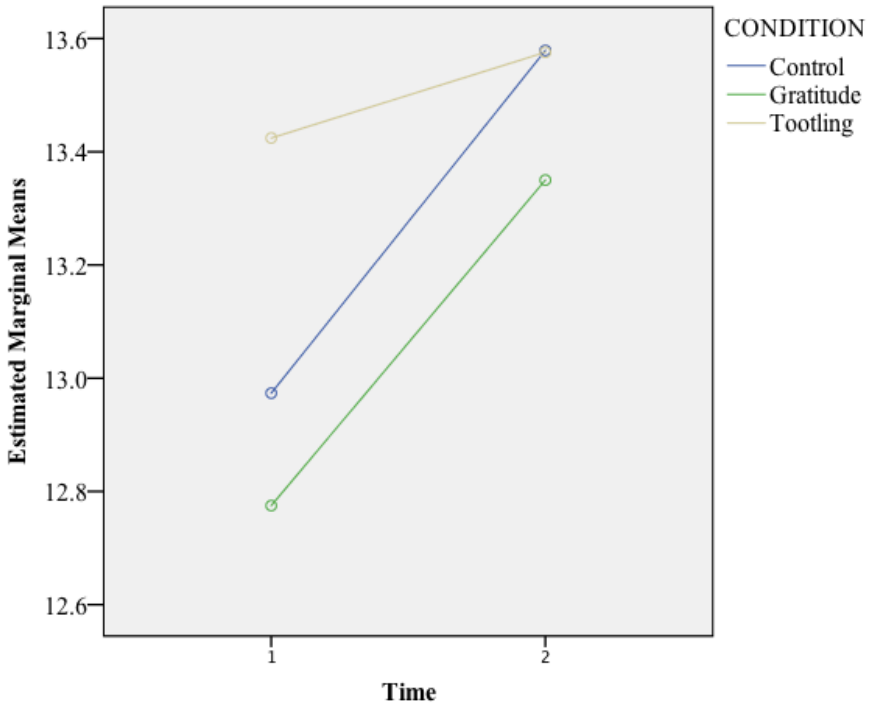

Figure 8. Estimated Marginal Means of SEHS-P Persistence

Table 4
Mean Scores for the Social Emotional Health Survey – Primary (SEHS-P)

Domain by Condition	Baseline		Post-Test		Mean Differences
	M	SD	M	SD	
Control Condition					
Gratitude	14.16	1.97	13.08	2.28	-1.08*
Optimism	12.39	2.24	11.95	2.37	-0.44
Zest	10.87	2.51	10.84	2.74	-0.03
Persistence	12.97	2.27	13.58	2.05	0.61
Gratitude Intervention					
Gratitude	12.65	3.37	13.15	2.91	0.50
Optimism	13.40	2.39	12.45	2.79	-0.95
Zest	12.20	2.91	11.75	3.66	-0.45
Persistence	12.78	2.89	13.35	3.03	0.57
Tootling Intervention					
Gratitude	13.48	3.06	13.09	2.96	-0.39
Optimism	12.39	3.08	12.55	2.51	0.16
Zest	10.88	3.78	10.76	3.61	-0.12
Persistence	13.42	2.51	13.58	2.54	0.16

Note: Maximum scores across all domains on the SEHS-P are 16. Higher scores represent greater levels of social emotional health.
* denotes a significant change at $p < .05$

3.2 Student-Teacher Relationships

Initial exploration of the student-teacher relationship data using the STRS-SF in a mixed MANOVA design revealed a significant main effect for time, $F(2, 109) = 11.276$, $p < .001$, partial $\eta^2 = .171$, indicating that the overall scores as reported by teachers for all participants changed significantly from T1 to T2 on the combined level of closeness and conflict. Analyses also produced a significant time by condition interaction, $F(4, 218) = 2.857$, $p < .05$, partial $\eta^2 = .050$, suggesting that this effect was different, as a function of the condition to which classrooms were assigned.

Follow-up analyses also revealed differential effects for measures of closeness and conflict. Overall, teacher-reported closeness increased significantly from baseline ($M = 28.12$,

SD = 5.542) to post-test (*M* = 29.59, *SD* = 5.401), regardless of random assignment to condition, F(1, 110) = 17.308, $p < .001$. This produced a large effect size as indicated by partial $\eta^2 = .136$. When broken down by intervention condition, the significant increase in closeness from T1 (*M* = 26.43, *SD* = 5.777) to T2 (*M* = 28.38, *SD* = 4.768) was evident for the gratitude condition, F(1, 41) = 16.332, $p < .001$, and characterized by a large effect, partial $\eta^2 = .285$. There was also a significant increase in measures of closeness from T1 (*M* = 29.66, *SD* = 5.10) to T2 (*M* = 31.16, *SD* = 4.796) for the control condition as well, F(1, 37) = 4.232, $p < .05$, partial $\eta^2 = .103$. Changes in teacher-rated levels of closeness for the tootling intervention were non-significant, F(1, 32) = 2.435, $p = .129$, partial $\eta^2 = .071$, but were reportedly underpowered, as the condition had fewer participants, resulting in an observed power of .328. A visual depiction of the changes in means across conditions is displayed in Figure 9 below and statistics for both closeness and conflict variables are also presented in Table 5.

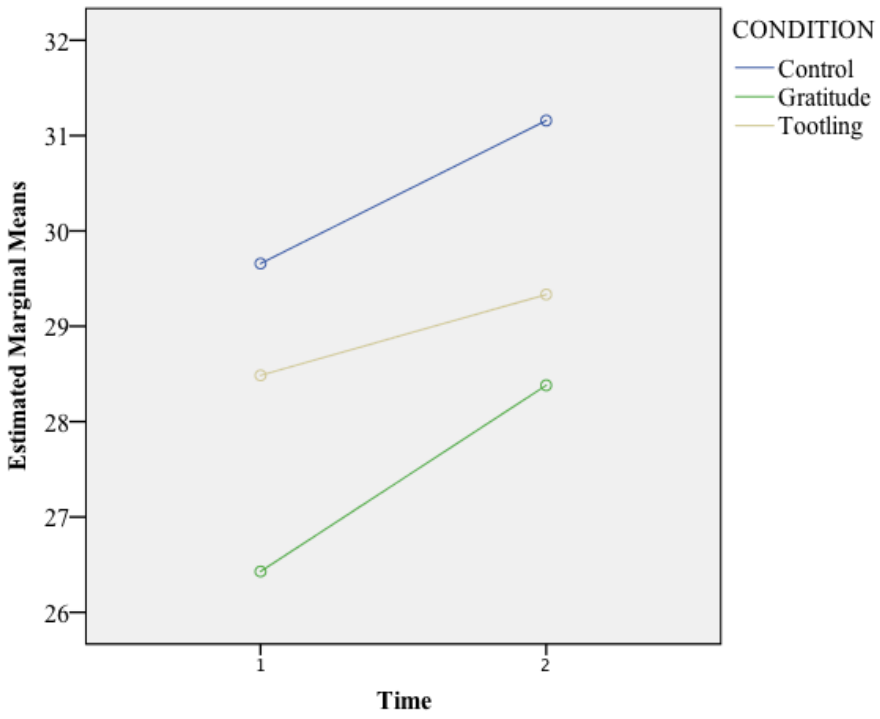

Figure 9. Estimated Marginal Means of STRS-SF Closeness

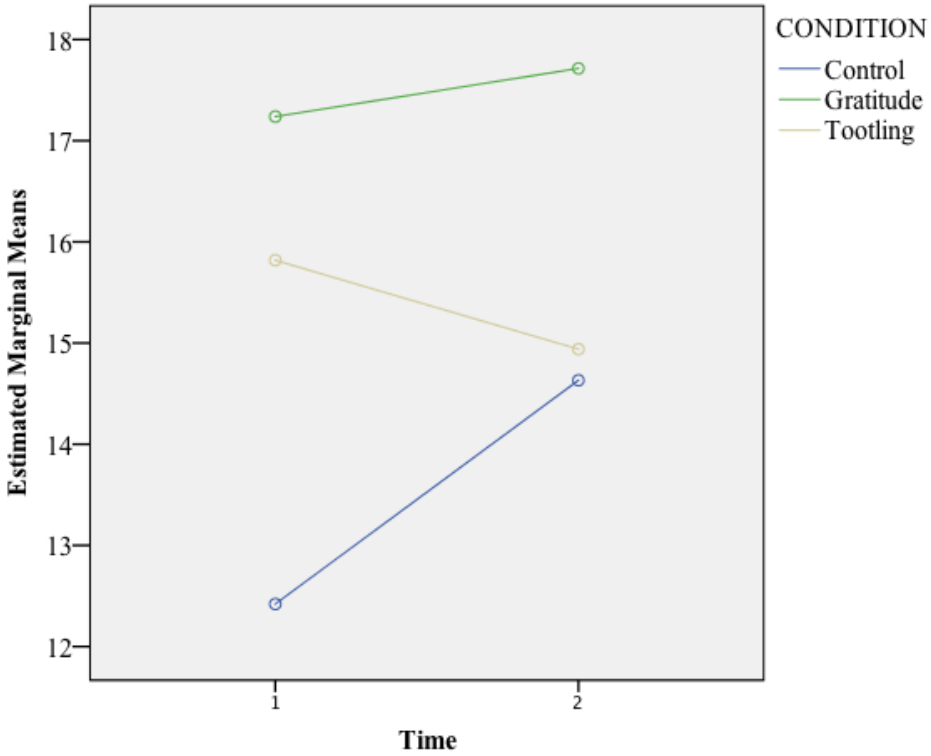

Figure 10. Estimated Marginal Means of STRS-SF Conflict

Table 5
Closeness and Conflict as Measured by the Student-Teacher Relationship Scale, Short Form (STRS-SF)

	M_1	M_2	Mean difference	Standard error	Significance value
Control Condition					
Closeness	29.66	31.16	1.50	.729	.047*
Conflict	12.42	14.632	2.21	.757	.006**
Gratitude Intervention					
Closeness	26.43	28.38	1.95	.483	.000***
Conflict	17.24	17.71	0.47	.621	.448
Tootling Intervention					
Closeness	28.49	29.33	0.85	.544	.129
Conflict	15.82	14.94	-0.88	.793	.279

Note: Maximum scores on the STRS-SF are 35 for closeness and 40 for conflict. Higher scores represent greater levels of each domain in the student-teacher relationship.
* denotes a significant change at $p < .05$
** denotes a significant change at $p < .01$
*** denotes a significant change at $p < .001$

Post-hoc comparisons of teacher-reported conflict revealed no significant change in overall conflict from baseline ($M = 15.82$, $SD = 8.68$) to post-test ($M = 14.94$, $SD = 9.62$), $F(1, 110) = 2.095$, $p = .151$, partial $\eta^2 = .019$. However, there was a significant time by condition interaction for levels of conflict, $F(2, 110) = 4.404$, $p < .05$, partial $\eta^2 = .074$. When broken down by intervention condition, there was a significant increase in conflict from T1 ($M = 12.42$, $SD = 6.579$) to T2 ($M = 14.63$, $SD = 6.961$) for the control condition, $F(1, 37) = 8.521$, $p < .01$, which was characterized by a large effect, partial $\eta^2 = .187$. However, there were no significant changes in conflict for either the gratitude, $F(1, 37) = .588$, $p = .448$, partial $\eta^2 = .014$, or the tootling, , $F(1, 32) = 1.229$, $p = .276$, partial $\eta^2 = .037$, intervention conditions. Table 5 above displays these changes in mean levels of teacher-reported conflict on the STRS-SF on the follow-up analyses across intervention condition. Figure 10 below depicts the changes in the marginal means for each condition from T1 to T2.

3.3 Classroom Behavior

3.3.1 Teacher-reported classroom behavior. Teacher-reported classroom behavior was first analyzed using the overall composite score on the BBRS, representing overall level of classroom behavior. Higher scores on the composite represented more positive behavior in the classroom. Initial analyses in a mixed repeated-measures ANOVA revealed a significant main effect for time, $F(1, 110) = 6.584$, $p < .05$, partial $\eta^2 = .056$, indicating that overall classroom behavior across all students changed significantly from T1 ($M = 51.81$, $SD = 17.48$) to T2 ($M = 54.11$, $SD = 15.34$). Analyses also produced a significant time by condition interaction, $F(2, 110) = 10.674$, $p < .001$, producing a large effect size, partial $\eta^2 = .163$, suggesting that the effect was different across intervention condition. There were no significant differences in the degree of change between intervention and control groups, $F(2, 110) = 2.76$, $p = .068$, partial $\eta^2 = .048$.

Follow-up analyses revealed a significant decrease in overall classroom behavior from T1 ($M = 58.92$, $SD = 16.09$) to T2 ($M = 55.76$, $SD = 12.82$) for students in the no-treatment control classrooms, $F(1, 37) = 6.174$, $p < .05$, with a large effect, partial $\eta^2 = .143$. There was also a significant improvement in overall classroom behavior from T1 ($M = 46.19$, $SD = 17.19$) to T2 ($M = 52.29$, $SD = 13.71$) for students in the gratitude classrooms, $F(1, 41) = 16.44$, $p < .001$, which also produced a large effect, partial $\eta^2 = .286$. A significant improvement in overall classroom behavior was also found for students in the tootling classrooms, from baseline ($M = 50.76$, $SD = 17.002$) to posttest ($M = 54.52$, $SD = 19.62$), $F(1, 32) = 4.736$, $p < .05$, also resulting in a large effect, partial $\eta^2 = .129$. Specific values are presented in the first part of Table 6 and a visual representation of these changes is presented in Figure 11.

Table 6
Student Behavior According to the Brief Behavior Rating Scales (BBRS)

BBRS Measure	Condition	M_1	M_2	Mean difference	Standard error	Significance value
BBRS Composite	Control	58.92	55.76	-3.16	1.27	0.018*
	Gratitude	46.19	52.29	6.10	1.50	.000***
	Tootling	50.76	54.52	3.76	1.73	.037*
Follows Directions	Control	5.63	5.55	-0.08	--	--
	Gratitude	4.48	4.90	0.43	--	--
	Tootling	5.24	5.24	0.00	--	--
Responds Hit/Pushed	Control	5.34	5.16	-0.18	--	--
	Gratitude	3.31	3.52	0.21	--	--
	Tootling	3.85	4.30	0.80	--	--
[a]Disturbs Activities	Control	5.34	4.71	-0.63	.218	0.006**
	Gratitude	4.12	4.43	0.31	--	--
	Tootling	4.21	5.03	0.82	.324	0.017
Ignores Peer Distractions	Control	4.21	3.79	-0.42	--	--
	Gratitude	2.93	3.40	0.47	--	--
	Tootling	3.39	3.45	0.06	--	--
[a]Easily Distracted	Control	3.45	3.29	-0.16	--	--
	Gratitude	2.98	3.64	0.66	--	--
	Tootling	2.91	2.97	0.06	--	--
Cooperates With Peers	Control	5.37	5.00	-0.37	--	--
	Gratitude	4.71	5.10	0.29	--	--
	Tootling	4.88	5.00	0.12	--	--
[a]Argues With Others	Control	4.97	4.32	-0.65	--	--
	Gratitude	4.38	4.45	0.12	--	--
	Tootling	4.27	4.30	0.03	--	--
Gives Peer Compliments	Control	4.29	4.16	-0.13	--	--
	Gratitude	2.64	3.64	1.00	.174	.000***
	Tootling	3.30	3.52	0.22	--	--
Joins Ongoing Activities	Control	4.84	4.89	0.05	--	--
	Gratitude	4.29	4.74	0.45	--	--

	Tootling	4.55	5.21	0.66	--	--
Volunteers to Help	Control	4.37	4.24	-0.42	--	--
	Gratitude	3.95	4.76	0.81	.239	.002**
	Tootling	4.24	5.06	0.66	.202	.000***

(Table 6 continued)

BBRS Measure	Condition	M_1	M_2	Mean difference	Standard error	Significance value
Accepts Peer Ideas	Control	4.82	4.76	-0.06	--	--
	Gratitude	3.93	4.76	0.79	.233	.001**
	Tootling	4.55	4.97	0.42	.190	.033

Note: Responses on each item of the BBRS are on rated on a Likert scale ranging from 1 = never to 7 = always

[a]Items were reverse-scored in order to contribute to the overall BBRS

* denotes a significant change at $p < .05$

** denotes a significant change at $p < .01$

*** denotes a significant change at $p < .001$

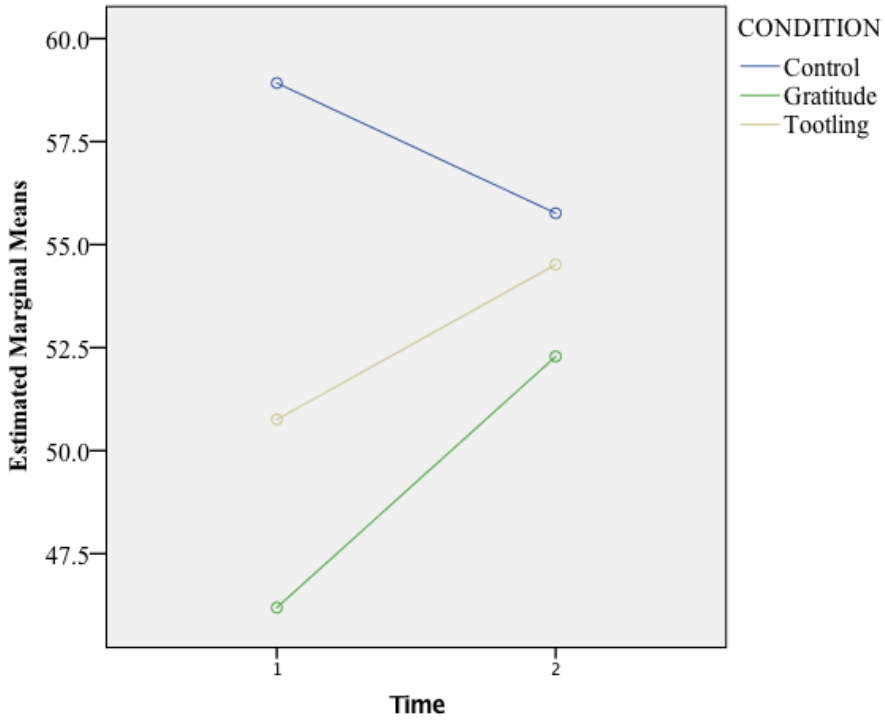

Figure 11. Estimated Marginal Means of BBRS Total Score

After analyzing the overall score on the BBRS, changes on each individual item on the BBRS were analyzed using a series of repeated-measures ANOVAs, applying Bonferroni corrections to each in order to account for the inflated Type I error. The vast majority of individual item analyses did not yield any significant main or interaction effects. However, several items did yield significant findings. While there was no significant effect for time on the third item on the BBRS, "disturbs ongoing activities," $F(1, 110) = 1.322$, $p = .253$, partial $\eta^2 = .012$, there was a significant interaction between time and condition, $F(2, 110) = 9.752$, $p < .001$, which also constituted a large effect, partial $\eta^2 = .133$. Follow-up analyses revealed a significant increase in behaviors that disturb others from baseline ($M = 5.34$, $SD = 1.849$) to post-test ($M = 4.71$, $SD = 1.642$) for students in the control condition, $F(1, 37) = 8.391$, $p < .01$, with a large effect, partial $\eta^2 = .185$. There was no significant change in ratings of disruptive behavior for students in either the gratitude, $F(1, 41) = 2.143$, $p = .151$, partial $\eta^2 = .05$, or tootling intervention classrooms, $F(1, 32) = 6.374$, $p = .017$, partial $\eta^2 = .166$, when applying the Bonferroni correction. A visual representation of the mean changes across all three conditions on this item is presented in Figure 12.

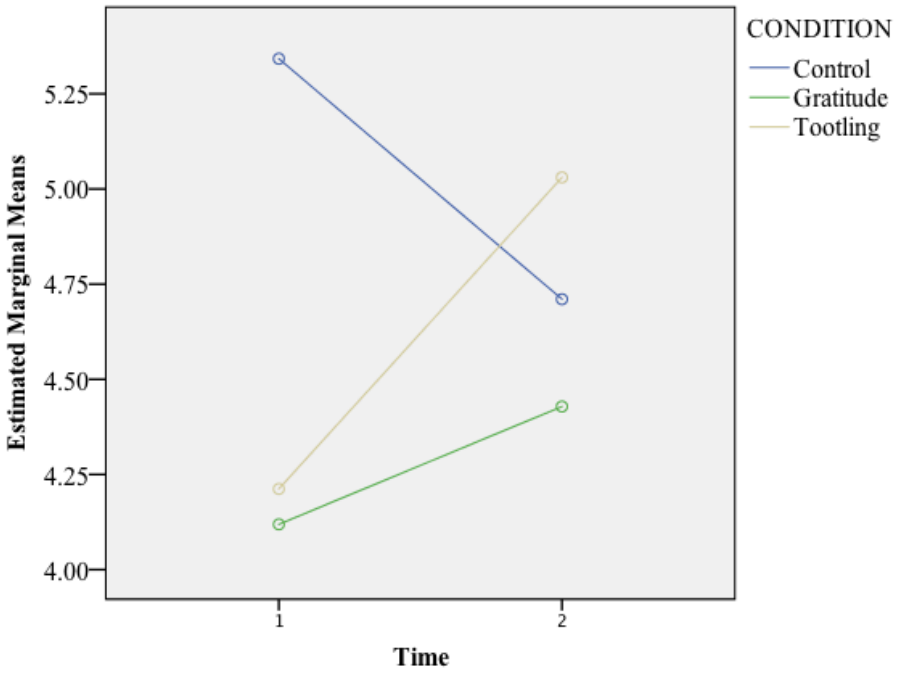

Figure 12. Estimated Marginal Means of BBRS Item 3
Disturbs Ongoing Activities

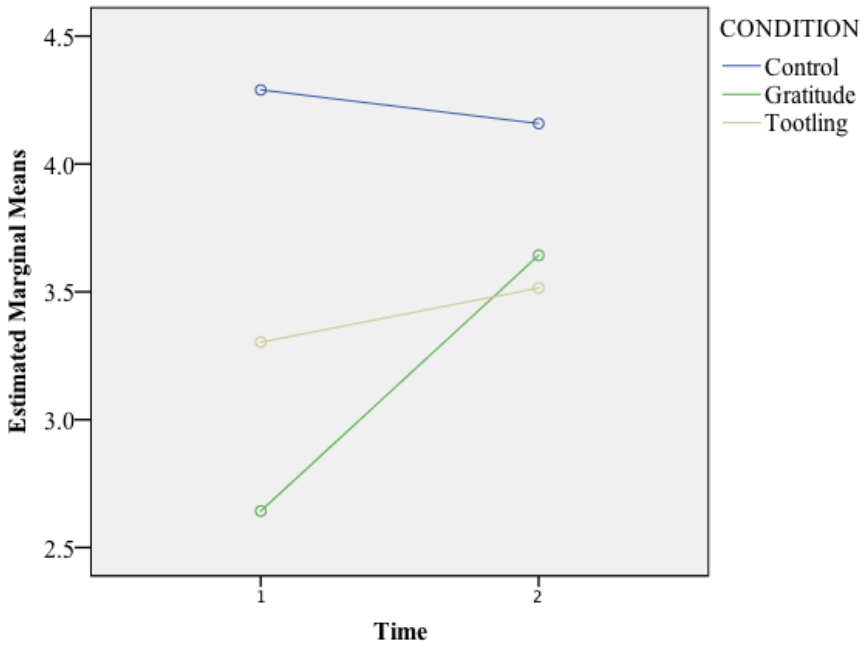

Figure 13. Estimated Marginal Means of BBRS Item 9
Gives Compliments to Peers

For the ninth item on the BBRS, "gives compliments to peers," there was a significant main effect for time, $F(1, 110) = 7.833$, $p < .01$, partial $\eta^2 = .066$, and a significant interaction between time and condition, $F(2, 110) = 7.287$, $p < .001$, partial $\eta^2 = .117$. Follow-up analyses revealed no significant changes in frequency of complimenting peers for students in the control classrooms, $F(1, 37) = .356$, $p = .554$, partial $\eta^2 = .01$, or the tootling classrooms, $F(1, 32) = .569$, $p = .456$, partial $\eta^2 = .017$, observed power = .113. However, a significant increase in complimenting peers was reported from baseline ($M = 2.64$, $SD = 1.495$) to post-test ($M = 3.64$, $SD = 1.805$) for students in the gratitude condition, $F(1, 41) = 33.115$, $p < .001$, with a large effect, partial $\eta^2 = .447$. Graphical depiction of the changes on this item can be seen in Figure 13.

There was also a significant main effect for time on the eleventh item on the BBRS, "volunteers to help peers," $F(1, 110) = 13.807$, $p < .001$, partial $\eta^2 = .112$, and a significant interaction between conditions over time, $F(2, 110) = 5.586$, $p < .01$, partial $\eta^2 = .092$. Follow-up analyses revealed no significant changes in frequency of volunteering to help peers for control students, $F(1, 37) = .303$, $p = .585$, partial $\eta^2 = .008$. There was, however a significant increase in frequency of helping behaviors among students in the gratitude condition, $F(1, 41) = 11.459$, $p = .002$, representing a large effect as represented by partial $\eta^2 = .218$, from baseline ($M = 3.95$, $SD = 2.060$) to post-test ($M = 4.76$, $SD = 1.708$). A significant increase in frequency of helping peers also emerged from baseline ($M = 4.24$, $SD = 1.838$) to post-test ($M = 5.06$, $SD = 1.870$) for students in the tootling condition, $F(1, 32) = 16.475$, $p < .001$, also representing a large effect, partial $\eta^2 = .340$. Graphical depiction of the changes on the frequency of volunteering to help peers is shown in Figure 14.

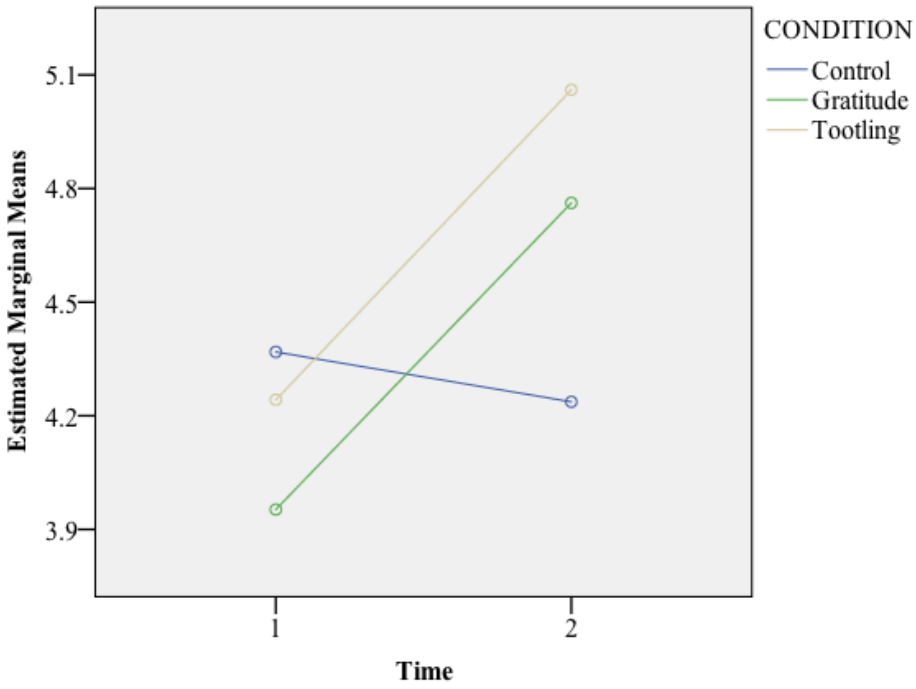

Figure 14. Estimated Marginal Means of BBRS Item 11
Volunteers to Help Peers

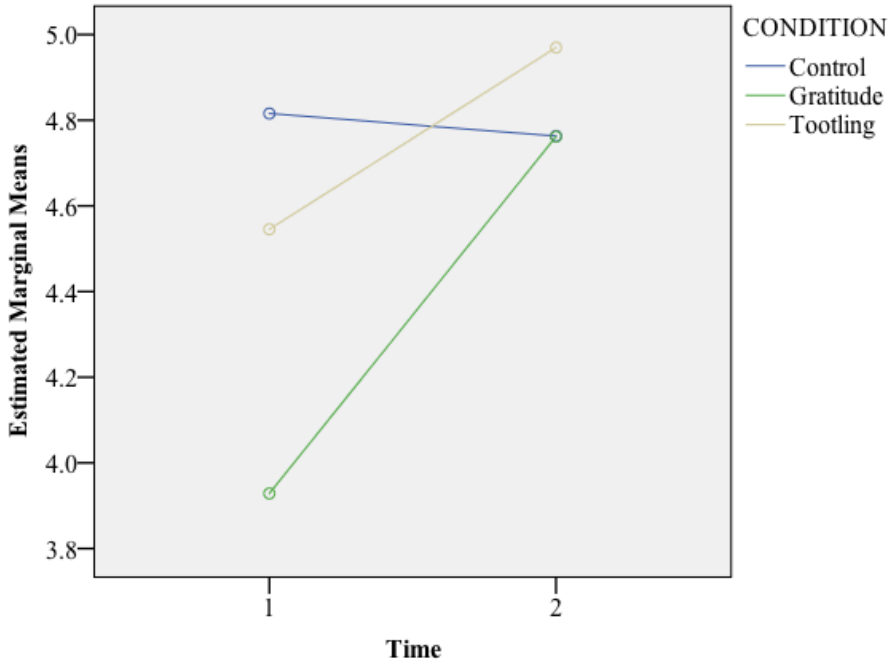

Figure 15. Estimated Marginal Means of BBRS Item 12
Accepts Peer Ideas

The final item on the BBRS, "accepts peer ideas," also demonstrated a significant main effects for time, $F(1, 110) = 9.026$, $p < .01$, partial $\eta^2 = .080$, and for a significant interaction between the intervention conditions over time, $F(2, 110) = 4.146$, $p < .05$, partial $\eta^2 = .070$. Post-hoc analyses revealed a significant increase in students' frequency of accepting peers' ideas behaviors that disturb others from baseline ($M = 3.93$, $SD = 1.536$) to post-test ($M = 4.76$, $SD = 1.462$) for students in the gratitude condition, $F(1, 41) = 12.744$, $p = .001$, with a large effect, partial $\eta^2 = .237$. There was no significant change in the frequency of accepting peer ideas for students in the control, $F(1, 37) = .051$, $p = .822$, partial $\eta^2 = .001$, or tootling intervention classrooms, $F(1, 32) = 4.994$, $p = .033$, partial $\eta^2 = .135$, when applying the Bonferroni correction. A visual representation of the mean changes across all three conditions on this item is presented in Figure 15. All significant analyses for the BBRS data are depicted in Table 6 above.

3.3.2 Weekly conduct grades. Weekly conduct grades were also explored as an additional measure of possible change in student behavior over the course of the current study. The frequency of letter grades were tallied across all three classrooms and converted to a percentage of total students in each condition. These results are displayed in Table 7. While there appeared to be intermittent changes in grades across all three conditions, there did not appear to be a substantial change in the distribution of weekly conduct grades throughout the course of the current study.

Table 7
Weekly Conduct Grades

Condition		Baseline		Post-Test	
		n	%	n	%
Control	A	24	63.2%	20	52.6%
	B	4	10.5%	13	34.2%
	C	7	18.4%	1	2.6%
	D	3	7.9%	2	5.3%
	F	0	0%	2	5.3%
Gratitude	A	22	52.4%	25	59.5%
	B	10	23.8%	12	28.6%
	C	9	21.4%	5	11.9%
	D	1	2.4%	0	0%
	F	0	0%	0	0%
Tootling	A	16	48.5%	19	57.6%
	B	8	24.2%	5	15.2%
	C	2	6.1%	3	9.1%
	D	1	3.0%	2	6.1%
	F	6	18.2%	4	12.1%

3.3.3 Office discipline referrals. Frequency of office discipline referrals was also collected and reviewed as an objective measure of behavior change over the course of the study. Prior to the start of the intervention period, students in the control classrooms had a total of 8 office discipline referrals during the week prior to baseline data collection. Students in the gratitude classrooms had a total for 14 ODRs, whereas students in the tootling intervention condition had a total of 5 ODRs. After the end of the three-week period during the study, the total number of ODRs decreased for all three conditions. Only one student in both the control condition and tootling condition received an ODR, whereas no students in the gratitude condition received any ODRs during the week of post-test data collection. This data is shown in Table 8 below.

Table 8
Frequency of Office Discipline Referrals (ODRs) by Condition

Intervention Method	Baseline n	Post-Test n
Control Condition	8	1
Gratitude Intervention	14	0
Tootling Intervention	5	1

3.4 Intervention Acceptability

At baseline, students reported on their initial perception of acceptability for each intervention condition, based on the condition to which they had been randomly assigned. There was no significant difference in the student-reported levels of acceptability between students set to participate in the gratitude intervention (M = 25.55, SD = 4.314), and students set to participate in the tootling intervention (M = 23.39, SD = 5.344) at baseline, $t(71) = 1.908$, p = .06. After the completion of the intervention period, students again reported on their perceptions of acceptability for each intervention. Following the completion of the study, there remained no significant difference between the student-reported acceptability of the gratitude intervention (M = 26.58, SD = 4.523) and the tootling intervention (M = 24.58, SD = 5.105), $t(71) = 1.773$, p = .08, indicating that both groups endorsed similar levels of acceptability between the interventions. Further analysis of the student acceptability data using paired-samples t-tests found no significant changes in student ratings of acceptability pre-post for either the gratitude intervention, $t(39) = -1.188$, $p = .242$, or the tootling intervention, $t(32) = -1.503$, $p = .143$. Despite no significant difference in the scores over time, it is important to note that the average rating of acceptability for the tootling intervention increased slightly, resulting in a higher score at post-test that exceeded the threshold of 24.5 as "acceptable" according to Turco and Elliott (1986). Results of the acceptability data are shown in Table 9.

Table 9
Student Acceptability Ratings – Children's Intervention Rating Profile (CIRP)

Intervention Method	Baseline		Post-Test	
	M	SD	M	SD
Gratitude Intervention	25.55	4.314	26.58	4.523
Tootling Intervention	23.39	5.344	24.58	5.105

Note: The CIRP utilized in this study is a 7-item scale with a possible total score ranging from 7 to 35. A score 24.5 represents a rating of "acceptable"

Scores from teacher-reported acceptability using the URP-IR were also examined both between groups and over time. Due to the small number of teachers who participated in the two intervention conditions (n = 6), differences could not be analyzed using parametric testing. However, descriptive statistics were evaluated and discussed in terms of trends and observed differences in the scores. The number of items included on each scale determined the range of possible scores. For Acceptability, possible scores ranged from 9 to 54; for the Understanding and System Support domains, possible scores ranged from 3 to 18; and for the Feasibility domain, possible scores ranged from 6 to 36. Higher scores represented greater perceptions of acceptability, understanding, and feasibility related to each intervention. Lower scores on the System Support domain represented less of a requirement for outside supports in order to implement the intervention. Mean scores and standard deviations for teacher acceptability across the four domains are shown in Table 10 for both intervention conditions.

Table 10
Teacher Acceptability Ratings – Usage Rating Profile – Intervention (Revised; URP-IR)

Rating Factor	Baseline		Post-Test	
	M	SD	M	SD
Gratitude Intervention				
Acceptability	47.67	1.528	47.00	2.646
Understanding	16.67	1.155	16.67	1.528
Feasibility	29.67	1.528	33.67	.577
System Support	4.67	1.528	4.33	1.155
Tootling Intervention				
Acceptability	50.67	3.055	50.33	3.786
Understanding	17.00	1.732	18.00	0.00
Feasibility	34.67	1.528	35.00	1.00
System Support	5.67	3.055	4.33	2.309

For the gratitude intervention, teachers reported high levels of overall acceptability both at baseline (M = 47.67, SD = 1.528) and at post-test (M = 47.00, SD = 2.646). Intervention understanding was also rated high by teachers in the gratitude intervention at both T1 (M = 16.67, SD = 1.155) and at T2 (M = 16.67, SD = 1.528). Feasibility scores were also high and improved slightly from baseline (M = 29.67, SD = 1.528) to post-test (M = 33.67, SD = .577). Finally, teachers in the gratitude condition reported low levels of System Support requirements from T1 (M = 4.67, SD = 1.528) and to T2 (M = 4.33, SD = 2.646).

Results related to teacher acceptability for the tootling intervention were similar to the scores for the gratitude intervention. In regards to tootling, teachers also reported high levels of overall acceptability both at T1 (M = 50.67, SD = 3.055) and at T2 (M = 50.33, SD = 3.786). These scores were slightly higher than those found for the gratitude intervention. Intervention understanding was also rated high by tootling teachers at both baseline (M = 17.00, SD = 1.732) and post-test (M = 18.00, SD = 0.00). Feasibility scores for implementing the tootling intervention were also high for both pre-test (M = 34.67, SD = 1.528) and post-test (M = 35.00,

SD = 1.00). Finally, teachers utilizing the tootling intervention also reported needing low levels of external supports to implement the intervention, which decreased from T1 (*M* = 5.67, *SD* = 3.055) to T2 (*M* = 4.33, *SD* = 2.309). Overall, teachers reported high levels of acceptability, understanding, and feasibility, and low levels of system support requirements for both intervention conditions.

3.5 Treatment Integrity

3.5.1 Treatment integrity checklists. Results of the analysis of the teacher self-reported treatment integrity checklists revealed variable levels of integrity across classrooms. In each of the three gratitude intervention classrooms, teacher self-reported levels of integrity ranged from 37.5% (3/8 of the intervention components) to 100% (8/8 of the intervention components). Overall levels of classroom integrity for the gratitude condition ranged from 81.67% to 89.17%. The ranges of self-reported treatment integrity were the same for the three tootling classrooms (37.5% or 3/8 components to 100% or 8/8 components). Overall levels of integrity across the three tootling classrooms ranged from 87.5% to 100%.

The researcher also conducted integrity observations on two randomly selected days for each of the participating intervention classrooms. During these observations, the researcher utilized the same integrity checklist as the teacher. After the observations, the percentage of agreement between the teacher and the researcher were calculated. Across all 12 of these observations, the Inter-observer agreement (IOA) was 100%. Table 11 displays the average level of self-reported integrity by intervention group, along with minimum and maximum levels of self-reported integrity across interventions. Table 11 also shows the average level of IOA across the observations conducted by the researcher for both intervention conditions.

Table 11
Percentage of Treatment Integrity by Intervention Condition

Intervention Method	M%	Minimum %	Maximum %	IOA %
Gratitude Intervention	86.1%	37.5%	100%	100%
Tootling Intervention	95%	37.5%	100%	100%

3.5.2 Permanent products. The final data related to treatment integrity involved the collection and analysis of two types of permanent products. The Gratitude Note Record Sheet, as shown in Appendix K, provided the opportunity for the researcher to visually inspect the participating gratitude teachers' report of completing the thank-you note portion of the gratitude intervention. Visual inspection of the gratitude note permanent product revealed that all three teachers completed 15 days worth of thank-you notes for their students. Additionally, all students in their classes each received one gratitude note per five days of the intervention period, indicating that all three teachers adhered to the overall guidelines for gratitude note writing.

Teachers in the tootling intervention classrooms completed the "Tootle Daily Record Sheet" included in Appendix L, to track the number of tootles produced by students during each day of the 15 days of intervention. Results across all three tootling classrooms are depicted below in Figure 16. Classroom one completed a total of 485 tootles over the 15 days, whereas classroom two completed 143, and classroom three completed 63.

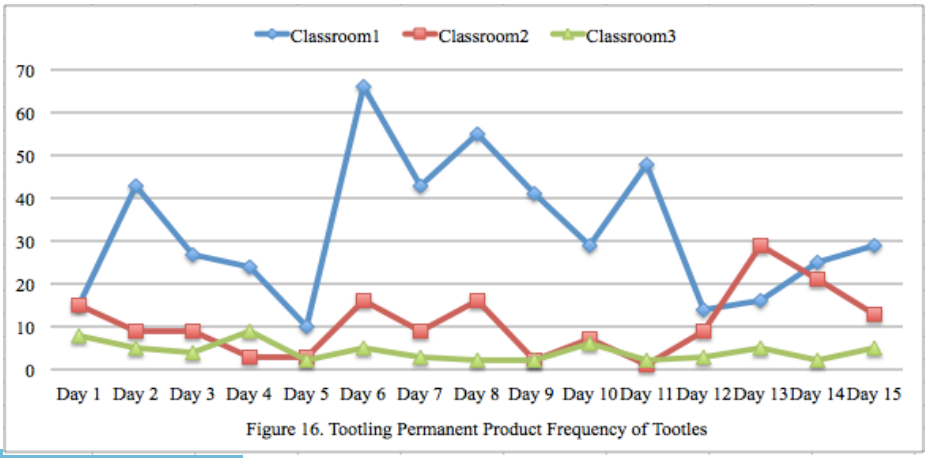

Figure 16. Tootling Permanent Product Frequency of Tootles

CHAPTER 4
CONCLUSIONS

4.1 Student Subjective Wellbeing

The first research question related to the current study surrounded an investigation into whether intervening at the classroom level could lead to measurable changes in student ratings of school-related subjective wellbeing. Results of the statistical analyses using the data from the SSWQ revealed no significant effects on student-reported levels of subjective wellbeing for the gratitude or tootling interventions, and no significant change in these measures of student wellbeing in the control condition either. Despite the hypothesis that the tootling and gratitude interventions would lead to increases in student perceptions of school connectedness, academic efficacy, joy of learning, and educational purpose, results from this preliminary investigation surrounding these interventions did not support this.

On the SEHS-P, analyses revealed two preliminary findings. While no significant changes over time were found for domains on the SEHS-P for either intervention condition, there was a significant decrease in gratitude from T1 to T2 in the control condition, whereas there was no change in levels of gratitude for either intervention condition. This suggests that there may be some factor related to the interventions in general that leads to maintenance of feelings of school-related thankfulness that does not exist for the control classroom. It is conceivable that the design of both interventions, specifically the focus on praise for positive behaviors and on identifying positive aspects of school and classmate behavior, may contribute to this difference.

Analyses with the SEHS-P also revealed that overall levels of student-reported persistence increased significantly for all participants, independent of intervention condition. These effects were found to be statistically equivalent across the three groups, suggesting that random assignment to intervention condition was not the agent of change related to students'

levels of persistence. Perhaps an unaccounted for confounding variable, such as the approaching end of the school year, is what impacted levels of persistence across all students. Perhaps this confounding variable is what resulted in the statistically significant change over the three weeks during the study. However, without further investigation, these conclusions are only speculative.

Overall, the results relative to student subjective wellbeing were minimal. However, given the relatively small sample size, the ability to detect significant changes in these variables was likely underpowered. In addition, the slightly negative skew in the data across both subjective wellbeing measures may have impacted the results as well, since students in the current study, overall, rated themselves as higher on subjective wellbeing variables before implementation took place. Furthermore, when data is aggregated at the classroom level, detecting significant changes becomes more challenging when compared to identifying change for individual students. While the effects of both interventions on overall student subjective wellbeing may not have resulted in statistically significant changes in school-related wellbeing, several small effect sizes emerged, suggesting there was some sort of impact on a small level.

4.2 Student-Teacher Relationships

At the outset of the study, the researcher hypothesized that there would be improvements in teachers' ratings of their relationships with their students as a function of the two interventions. Results of analyses with the STRS-SF somewhat supported this hypothesis, but were also limited. An overall effect for time on the combination of relationship variables was revealed, along with a significant interaction between time and intervention group. These findings indicated that overall teacher-reported relationships with their students changed over the course of the intervention across all three conditions, but also changed as a function of which randomly assigned intervention condition they participated in. In particular, teachers' perceptions

of closeness with their students increased significantly within the gratitude intervention condition. This effect was large, suggesting that the focus on gratitude and praise for positive behaviors within this intervention likely contributed to this improvement in teacher-student warmth and closeness.

However, the average ratings for closeness also increased significantly according to teachers in the control classrooms. This somewhat limits the interpretability of the findings for the gratitude intervention. While changes in closeness for teachers in the tootling classrooms did not change significantly, the non-significant difference between the level of change both the gratitude and control classrooms suggests that another factor may be at play in regard to changes in closeness over time. During collection of the follow-up data, one of the teachers who participated as a part of the control condition stated that he enjoyed the opportunity to fill out the questionnaires, even without participating in an intervention condition. He indicated that filling out the questionnaires made him more aware of the way he engaged with his students, and he changed the way he interacted with his students as a result. It is entirely possible that having teachers fill out questionnaires concerning their relationship with their students in and of itself impacted the way teachers viewed these relationships.

While there were no significant changes in levels of conflict for either the gratitude or tootling intervention conditions, a significant increase in teacher-student conflict was also found for the control condition. This finding is somewhat contradictory to the increase in closeness during the same time period for the control classrooms. These conflicting values could, however, reflect changes in different classrooms within the control condition, given that none of the classrooms received intervention during the 15-day period.

4.3 Classroom Behavior

Examination of classroom behavior data as reported by teachers was more fruitful when uncovering statistically significant changes as a result of the interventions. Another aim of the current study was to determine how and to what degree these interventions could produce changes in classroom problem behavior. While the objective indicators of student problem behavior (i.e., weekly conduct grades and office discipline referrals) did not reveal significant or useful findings to this end, the results of the BBRS yielded some informative outcomes. Teachers reported on the frequency of student behaviors in their classrooms across 12 items on the BBRS. The 12 items combined to also produce a composite, with higher scores representing more acceptable and "positive" classroom behavior. Overall, teacher-reported behavior for students in the control classrooms declined significantly over the course of the 15 days of the study. Conversely, behavior improved significantly for students within both the gratitude and tootling intervention classrooms. Both improvements were characterized by a large effect. Given the deterioration in classroom behavior for the control classrooms, it can be concluded that the increase in positive classroom behavior for both the gratitude and tootling classrooms was due to each intervention. This is a very promising result, as classroom management and improving student behavior is often a prominent goal for teachers.

Additional investigation of the BBRS by item provided further clarification regarding specifically which behaviors changed as a function of the gratitude and tootling interventions. Levels of disruptive behavior at baseline for both the gratitude and tootling intervention conditions, as measured by the "disturbs ongoing activities" were reported by teachers as being only "sometimes" a problem on average (designated by a score of 3 on the BBRS item before reverse scoring). These levels did not change significantly throughout the intervention period,

although reported levels after the tootling intervention suggested that the further decrease was trending towards significance. For the control classrooms, however, the baseline levels of disruptive behavior according to this item increased significantly, suggesting that both interventions may have played a role in preventing escalations in disruptive behavior.

The remaining changes in classroom behaviors that were revealed through use of the BBRS were related to changes in helping behaviors. Specific statistical findings were revealed for BBRS items assessing compliments among peers, volunteering to help, and acceptance of peer ideas. Teacher ratings on the BBRS for students in the control classrooms did not change significantly for any of the variables related to helping behaviors among peers. Significant findings did emerge, however, for both the gratitude and tootling intervention conditions. Specifically, students in the gratitude classrooms were rated by their teachers as behaving in significantly more prosocial ways, including providing more compliments towards their peers, volunteering to help peers more frequently, and more frequently accepting peer ideas. For the tootling classrooms, teachers also reported a significant increase in students' frequency of volunteering to help their peers. Changes in the frequency of accepting peer ideas also approached significance for the tootling classroom. Given the focus on thankfulness, praise, and positive peer reporting across both interventions, these findings make sense and lend support for the hypothesis that intervening in such ways would lead to measurable changes in positive behaviors among students, even in such a short period of time.

4.4 Intervention Acceptability and Treatment Integrity

One of the other goals of the current study was to identify interventions that would be enjoyable for students and teachers, and feasible to implement at the classroom level without requiring too many resources. Analysis of the student-reported acceptability data on the CIRP

revealed that students considered both the gratitude intervention and the tootling intervention to be "acceptable" after the completion of the study. Average ratings of acceptability did not change significantly from pre-test to post-test for either group, suggesting that partaking in either intervention was not aversive for students and that, overall, students did not dislike the components of both the gratitude and tootling activities in their classes. Student ratings of acceptability were also comparable across conditions, indicating that both interventions were considered to be worthwhile and neither was rated at a level that was higher than the other. However, the average ratings from students were slightly higher for the gratitude intervention, and the range of scores was smaller and higher from students who participated in the gratitude intervention (lowest score = 15; tootling lowest score = 7). Additionally, the *p*-value was approaching significance ($p = .066$). It is entirely possible, therefore, that these non-significant differences in student reported acceptability between the gratitude and tootling interventions could have been due to a lack of power in the sample size.

Teacher acceptability was also an important variable under investigation throughout the current study. The amount of time, effort, and resources needed to implement an intervention have been shown to be related to ratings of acceptability, and excessive amounts of time and financial demands are consistent factors in lowering an intervention's acceptability. Neither of the interventions employed in this study are unnecessarily time-consuming to prepare, and cost next to nothing. Additionally, both interventions were designed to promote and foster interactions among members of the class. Therefore, it was expected that teachers would rate these interventions as acceptable and feasible. Students were also hypothesized to rate both interventions as acceptable, as they both actively engaged students in the intervention process, albeit in different ways.

Using the scores on the URP-IR, results revealed high acceptability ratings for both interventions across all four domains assessed. Teachers reported high levels of acceptability, understanding of the intervention, feasibility of implementation for both interventions, along with low levels of need for external support in order to implement each. These levels were consistent at post-test, even after implementation took place. Overall, results related to acceptability indicate that both the gratitude and tootling interventions were considered to be acceptable to students and teachers, alike. Teachers also reported that both interventions were easy to understand and feasible to implement. Therefore, it appears that both interventions are viable options when considering classwide interventions that will be acceptable to most members of a classroom.

Given that acceptability has been linked on numerous occasions in the literature to improvements in treatment integrity, it was hypothesized at the start of the intervention that levels of integrity would be high throughout the course of the project. Teachers who participated in the gratitude condition had an average self-reported integrity score of 86.1% across the 15 days of intervention, indicating an overall acceptable level of integrity. The lowest reported percentage of integrity across the three gratitude classrooms was 37.5%. This teacher indicated that she had forgotten to do the morning meeting component of the intervention that day due to start of standardized testing week. This resulted in 5/8 of the intervention components being missed. However, she also reported that she reminded students halfway through the day to continue paying attention to things they were grateful for, and remembered to complete the thank-you notes at the end of the day.

There were also several days with 62.5% integrity across all three classrooms in the gratitude intervention, necessitating a visit from the researcher to review the procedure and

provide performance-feedback on a few separate occasions. It should be noted that during this time, two of the teachers verbalized that they preferred engaging in informal verbal praise throughout each day and completing the gratitude note-writing once per week for each student rather than completing several notes each day. While this was not a part of the formalized procedure for the current study, two of the teachers continued this practice for two out of the three weeks of the study, and still ensured that all students received an equivalent amount of praise notes during the same week of intervention (as indicated by the completion of the Gratitude Note Record Sheet). While each participating teacher adhered to the expectation that all students receive thank-you notes on a structured schedule, the specific nature of how they did so deviated from the standardized procedure for the purpose of the research study. Additionally, it was the researcher's intention that all 15 days of the intervention period be completed sequentially, without any lapse in intervention delivery across the three weeks. However, one teacher in the gratitude intervention skipped numerous days throughout the study, resulting in a total of 15 days of intervention taking place over the course of 19 school days. These factors may have contributed to the variability in the outcomes under investigation.

Teachers who participated in the tootling condition had an average self-reported integrity score of 95% across the 15 days of intervention, indicating an overall high level of integrity. The lowest reported percentage of integrity across the three tootling classrooms was also 37.5%. This teacher also indicated that she had forgotten to do the morning meeting component of the intervention, but was responsive to the performance-feedback and did not miss a morning meeting again throughout the intervention period.

While the overall level of self-reported integrity was higher in the tootling classrooms, it should be noted that there was a large difference in the number of tootles reported on the Tootle

Daily Record Sheet each day and overall throughout the course of the study across the three classrooms. This disparity could be related to differences in overall class size. However, it is important to acknowledge that the individual teachers across each of these classrooms could also have impacted these findings, based on overall enthusiasm for the intervention or encouragement and reminders to complete tootles. Given that the tootling intervention condition produced fewer significant outcomes than the gratitude intervention condition, this is important to note.

4.5 Limitations and Future Directions

As with any research project, there were limitations to the design and interpretation of the findings in the current study. Some limitations have been mentioned already in the discussion above, but others warrant particular attention here. First, the use of self-report rating scales as outcome data has inherent limitations, particularly when used with youth. It is well documented that there is the potential for bias and/or limited insight in self-report data. Given that the students ranged in ages from 8-12 years old, this limited insight could have been a factor in the completion of the subjective wellbeing rating scales. Further, many of the students struggled with reading, and were performing significantly below grade level. Despite the standardized administration procedures and reading aloud of all items for all students, this could be a potential confounding variable in the utility of the student self-report data.

While the attempt was to identify observable and objective indicators of behavior change throughout the duration of the investigation, the variables measures were deemed ineffective for the purpose of this study. Of particular challenge was the collection and interpretation of the weekly conduct grade data. Across the two schools, the methodology for recording and reporting this data was different. The researcher attempted to standardize this methodology, but due to the limited variability in the categorical grades at one of the schools (i.e., A-F grades rather than

recording the number of rule violations), the usability of the data was also limited. While ODRs have long been viewed as effective and useful objective indicators of behavior change, in the current study, the data was again limited. It became evident to the researcher partway through the study that the consistency of recording related to the ODRs was a significant concern. Both schools defined ODRs in the same way, but it became clear that, both at the individual teacher level and at the aggregate school level, the consistency of recording and reporting ODRs was limited. Perhaps a more informative metric in the future would be to record and analyze the number of "time-aways" from the classroom students receive, regardless of whether they are recording as a formalized ODR.

One major limitation is in relation to necessary changes in the research design and data analysis. Of note is the challenge related to the hierarchical nature of the data and the inability to analyze the results using multilevel modeling. Future designs should seriously consider the perks of using multilevel modeling to account for nested data and to address differences that may exist as a function of classroom that could not be assessed or addressed fully in the current study. Also, the final sample size in the current study, even using multivariate statistics, was considerably lower than anticipated, due to the attrition of one full classroom and the inability to collect a significant amount of the follow-up data. Not having three points in time substantially limited the power in the statistical analyses. Further, the tootling classroom ended up having the smallest sample size at the time of data analysis. It is entirely possible that these factors impacted the validity and generalizability of the findings, not only within the tootling intervention analyses, but also overall. Future studies should ensure that adequate sample size is obtained, and nested data is handled in the most effective manner. Doing so would also allow for more thorough investigation in the effects of both of these interventions in schools.

An additional potential confounding factor in this study includes the potential symmetrical designs in the intervention conditions. While the mechanisms utilized in both the gratitude and tootling interventions themselves were different (i.e., teacher-delivered gratitude notes versus peer-delivered praise), it is entirely possible that the two interventions resulted in similar behaviors in students among all six intervention classrooms. While this is somewhat speculative, the information provided by teachers in brief conversations with the researcher and in anecdotal observations during treatment integrity visits to the classroom suggests that teachers and students in both intervention conditions listed similar behaviors as things they were "thankful" for in the gratitude classrooms when compared to the activities that students "tootled" about in the other intervention classes. Therefore, while the design of the intervention involved differential components, it is possible that the underlying behaviors that were eventually targeted were too similar to detect differences between the intervention groups. This, combined with the limited power in detecting effects, particularly for the tootling condition, may have impacted the limited findings.

Finally, a major consideration for a potential confounding variable is that the study was conducted at the end of the school year. This issue is two-fold. One, end of the year excitement and burnout could have impacted ratings on both the student self-report and teacher-report rating scales. Perhaps more important to consider, however, is that by the end of the school year, students and teachers have typically developed a relationship that may prove to be difficult to change. Future research in this area would be enhanced by taking place during the fall semester, when classroom relationships are newer and still developing, and therefore, perhaps more responsive to the introduction of intervention.

Overall, preliminary findings from the current study have important implications for research and practice in schools. While the design had some limitations and there were minimal quantifiable changes in regards to student subjective wellbeing and student-teacher relationships based on either intervention, there were measurable changes in problem behavior and prosocial behavior after the implementation of both the gratitude and the tootling interventions. Perhaps most interesting is the influence that the gratitude intervention condition seemed to have over the course of the 15 days of intervention. The overall implication related to the gratitude intervention is that it is acceptable, can be feasibly implemented at the classroom level, and can still lead to improvements in student outcomes. Given that it is a newly designed intervention, created based on a combination of components from other studies, these results are promising and suggest that additional research should be done to replicate and expand upon these findings. This is also important, due to the limited effects of gratitude-based interventions in previous literature.

The literature surrounding the effectiveness of tootling interventions is well established, and so the present study, despite not revealing as many significant findings as epected, expands upon this base by confirming some of the earlier findings. Even despite the limitations in integrity and the short-term duration of the intervention period, tootling was deemed a viable option that is easy to implement, acceptable according to students and teachers, and leads to improvements in behavior in schools. Future research should continue to explore the association between tootling and classroom relationship and levels of student wellbeing in schools.

REFERENCES

Akhtar, M. & Boniwell, I. (2010). Applying positive psychology to alcohol-misusing adolescents: A group intervention. *Groupwork, 20*(3), 6-31. doi: 10.1921/095182410X576831

Allday, R. A. & Pukurar, K. (2007). Effects of teacher greetings on student on-task behavior. *Journal of Applied Behavior Analysis, 40*(2), 317-320. doi: 10.1901/jaba.2007.86-06

Allday, R. A., Bush, M., Ticknor, N., & Walker, L. (2011). Using teacher greetings to increase speed to task engagement. *Journal of Applied Behavior Analysis, 44*(2), 393-396. doi: 10.1901/jaba.2011.44-393

Antaramian, S. P., Huebner, E. S., Hills, K. J., & Valois, R. F. (2010). A dual-factor model of mental health: Toward a more comprehensive understanding of youth functioning. *American Journal of Orthopsychiatry*, *80*(4), 462-472. doi: 10.1111/j.1939-0025.2010.01049.x

Briesch, A. M., Chafouleas, S. M., Neugebauer, S. R., & Riley-Tillman, T. C. (2013). Assessing influences on intervention use: Revision of the Usage Rating Profile-Intervention. *Journal of School Psychology, 51*, 81–96. doi: 10.1016/j.jsp.2012.08.006

Capella, E., Kim, H. Y., Neal, J. W., & Jackson, D. R. (2013). Classroom peer relationships and behavioral engagement in elementary school: The role of social network quality. *American Journal of Applied Psychology, 52,* 367-379. doi: 10.1007/s10464-013-9603-5

Centers for Disease Control and Prevention (2009). *School Connectedness: Strategies for Increasing Protective Factors Among Youth.* Atlanta, GA: U.S. Department of Health and Human Services.

Chafouleas, S. M., Briesch, A. M., Neugebauer, S. R., & Riley-Tillman, T. C. (2011). Usage Rating Profile – Intervention (Revised). Storrs, CT: University of Connecticut.

Charney, R. (2002). *Teaching children to care: Classroom management for ethical and academic growth, K-8.* Greenfield, MA: Northeast Foundation for Children.

Cihak, D. F., Kirk, E. R., & Boon, R. T. (2009). Effects of classwide positive peer "tootling" to reduce the disruptive classroom behaviors of elementary students with and without disabilities. *Journal of Behavior Education, 18,* 267-278. doi: 10.1007/s10864-009-9091-8

Cook, C. R., Volpe, R. J., & Delport, J. (2014). Systematic progress monitoring of students with emotional and behavioral disorders: The promise of change-sensitive brief behavior rating scales. In W. M. Hill & F. M. Gresham (Eds.), *Handbook of evidence-based practices for emotional and behavioral disorders: Applications in schools* (211-228). New York: Guilford Press.

Drugli, M. B., & Hjemdal, O. (2013). Factor structure of the student-teacher relationship scale for Norwegian school-age children explored with confirmatory factor analysis. *Scandinavian Journal of Educational Research, 57*(5), 457-466. doi: 10.1080/00313831.2012.656697

Durlak, J. A., Dymnicki, A. B., Taylor, R. D., Weissberg, R. P., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*, 405-432. doi: 10.1111/j.1467-8624.2010.01564.x

Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology, 84,* 377−389.

Field, A. (2009). *Discovering statistics through SPSS* (3rd ed.). Los Angeles, CA: Sage.

Fields, B. (2004). Breaking the cycle of office referrals and suspensions: Defensive management. *Educational Psychology in Practice, 20*(2), 103-115. doi: 10.1080/02667360410001691044

Forman, S. G. & Selman, J. S. (2011). Systems-based service delivery in school psychology. In M. A. Bray & T. J. Kehle (Eds), *The Oxford Handbook of School Psychology* (628-646). New York: Oxford University Press, Inc.

Fowler, L. T. S., Banks, T. I., Anhalt, K., Der, H. H., & Kalis, T. (2008). The association between externalizing behavior problems, teacher-student relationship quality, and academic performance in young urban leaders. *Behavioral Disorders, 33*(3), 167-183.

Froh, J. J., Sefick, W. J., & Emmons, R. A. (2008). Counting blessings in early adolescents: An experimental study of gratitude and subjective well-being. Journal of School Psychology, *46,* 213–233.

Furlong, M. J., You, S., Renshaw, T. L., O'Malley, M. D., & Rebelez, J. (2013). Preliminary development of the Positive Experiences at School Scale for elementary school children. *Child Indicators Research, 6*, 753–775. doi:10.1007/s12187-013-9193-7

Furrer, C., & Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology, 95*, 148-162. doi: 10.1037/0022-0663.95.1.148

Gilman, R. (2001). The relationship between life satisfaction, social interest, and frequency of extracurricular activities among adolescent students. *Journal of Youth and Adolescence, 30,* 749-767.

Gresham, F. M., Cook, C. R., Collins, T., Dart, E., Rasetshwane, K., Truelson, E., & Grant, S. (2010). Developing a change-sensitive brief behavior rating scale as a progress-

monitoring tool for social behavior: An example using the social skills rating system – teacher form. *School Psychology Review, 39*(3), 364-379.

Hamre, B. K & Pianta, R. C. (2006). Student-teacher relationships. In G. G. Bear and K. M. Minke (Eds), *Children's needs III: Development, prevention, and intervention* (pp. 59-71). Washington, DC, US: National Association of School Psychologists.

Huebner, E. S. (1994). Preliminary development and validation of a multidimensional life satisfaction scale for children. *Psychological Assessment, 6*(2), 149-158.

Individuals with Disabilities Education Act, 20 U.S.C. § 1400 (2004).

Jenkins, L. N., Floress, M. T., & Reinke, W. (2015). Rates and types of teacher praise: A review and future directions. *Psychology in the Schools, 52*(5), 463-476. doi: 10.1002/pits.21835

Jones, K. M., Young, M. M., & Friman, P. C. (2000). Increasing peer praise of socially rejected delinquent youth: Effects on cooperation and acceptance. *School Psychology Quarterly, 15,* 30-39.

Kearney, W. S., Smith, P. A., & Maika, S. (2014). Examining the impact of classroom relationships on student engagement: A multilevel analysis. *Journal of School Public Relations, 85,* 80-102.

Kennedy, C., Jolivette, K., & Ramsey, M. (2014). The effects of written teacher and peer praise notes on the inappropriate behaviors of elementary students with emotional and behavioral disorders in a residential school. *Residential Treatment for Children and Youth, 31,* 17-40. doi: 10.1080/0886571X.2014.878577

Kincaid, D., Childs, K., Blasé, K. A., & Wallace, F. (2007). Identifying barriers and facilitators in implementing schoolwide positive behavior support. *Journal of Positive Behavior Interventions, 9*(3), 174-184. doi: 10.1177/10983007070090030501

Lambert, A. M., Tingstrom, D. H., Sterling, H. E., Dufrene, B. A., & Lynne, S. (2015). Effects of tootling on classwide disruptive and appropriate behavior of upper-elementary students. *Behavior Modification, 39*(3), 413-430. doi: 10.1177/0145445514566506

Libbey, H. P. (2004). Measuring student relationships to school: Attachment, bonding, connectedness, and engagement. *Journal of School Health, 74*(7), 274–283.

McNeely, C. A., Nonnemaker, J. M., & Blum, R. W. (2002). Promoting school connectedness: Evidence from the national longitudinal study of adolescent health. *Journal of School Health, 72*(4), 138-146.

Monahan, K. C., Oesterie, S., & Hawkins, J. D. (2010). Predictors and consequences of school connectedness: The case for prevention. *The Prevention Researcher, 17*(3), 3-6.

National Association of School Psychologists. (2010). *Model for comprehensive and integrated school psychological services.* Bethesda, MD: National Association of School Psychologists. Retrieved from: https://www.nasponline.org/standards-and-certification/nasp-practice-model/nasp-practice-model-implementation-guide/section-i-nasp-practice-model-overview/nasp-practice-model-overview

Nelson, J. A. P., Young, B. J., Young, E. L., & Cox, G. (2010). Using teacher-written praise notes to promote a positive environment in a middle school. *Preventing School Failure, 54*(2), 119-125.

O'Connor, E. E., Dearing, E., & Collins, B. A. (2011). Teacher-child relationship and behavior problem trajectories in elementary school. *American Educational Research Journal, 48,* 120-162. doi: 10.3102/0002831210365008

Office of Special Education Programs (OSEP). (2017). PBIS: Positive behavioral interventions & supports. Retrieved from http://www.pbis.org/.

Parish, T. S., & Parish, J. G. (2005). Comparing students' classroom-related behaviors across grade levels and happiness levels. *International Journal of Reality Therapy, 25,* 24-25.

Pianta, R. C. (1999). *Enhancing relationships between children and teachers.* Washington, DC: American Psychological Association.

Pianta, R. C. (2001a). *STRS: Student–teacher relationship scale; Professional manual.* Odessa, FL: Psychological Assessment Resources, Inc.

Pianta, R. C. (2001b). *Student–Teacher Relationship Scale–Short Form.* Lutz, FL: Psychological Assessment Resources, Inc. Retrieved from http://curry.virginia.edu/about/directory/robert-c.-pianta/measures

Pianta, R. C, Hamre, B., & Stuhlman, M. (2003). Relationships between teachers and children. In W. Reynolds & G. Miller (Eds.), *Comprehensive handbook of psychology: Vol. 7., Educational psychology* (pp. 199–234). Hoboken, NJ: Wiley & Sons, Inc.

Proctor, S. L. & Meyers, J. (2014). Best practices in primary prevention in diverse schools and communities. In P. L. Harrison & A. Thomas (Eds.), *Best Practices in School Psychology: Foundations* (pp. 33-48). Bethesda, MD: National Association of School Psychologists.

Renshaw, T. L. (2015). A replication of the technical adequacy of the student subjective wellbeing questionnaire. *Journal of Psychoeducational Assessment,* 1-12. doi: 10.1177/0734282915580885

Renshaw, T. L., Long, A. C. J., & Cook, C. R. (2015). Assessing adolescents' positive psychological functioning at school: Development and validation of the student subjective wellbeing questionnaire. *School Psychology Quarterly, 30*(4), 534-552. doi: 10.1037/spq0000088

Renshaw, T. L. & Olinger Steeves, R. M. (2016). What good is gratitude in youth and schools? A systematic review and meta-analysis of correlates and intervention outcomes. *Psychology in the Schools, 53*(3), 286-305. doi: 10.1002/pits.21903

Reschly, A. L., Huebner, E. S., Appleton, J. J. & Antaramian, S. (2008). The contribution of positive emotions and coping to adolescents' engagement at school and with learning. *Psychology in the Schools, 45,* 419-431.

Sabol, T. J., & Pianta, R. C. (2012). Recent trends in research on teacher-child relationships. *Attachment and Human Development, 14*(3), 213-231. doi:10.1080/14616734.2012.672262

Sanetti, L. M. H. & Simonsen, B. (2011) Positive behavior supports. In M. A. Bray & T. J. Kehle (Eds), *The Oxford Handbook of School Psychology* (pp. 647-665). New York: Oxford University Press, Inc.

Schlomer, G. L., Bauman, S., Card, N. A. (2010). Best practices for missing data management in counseling psychology. *Journal of Counseling Psychology, 57,* 1-10. doi: 10.1037/a0018082

Seligman, M. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist, 60*(5), 410-421. doi:10.1037/0003-066X.60.5.410

Skinner, C. H., Robinson, S. L., Ervin, R., Jones, K. (2002). Altering educational environments through positive peer reporting: Prevention and remediation of social problems associated with behavior disorders. *Psychology in the Schools,* 39(2), 191-202. doi: 10.1002/pits.10030

Steeves, R. O., Hartman, K., Metallo, S., Erickson, M., Byrd, S., Renshaw, T. L., & Gresham, F. M. (2015). *The relationships between students' subjective wellbeing and school success.* Manuscript in preparation.

Suldo, S. M., Huebner, E. S., Savage, J., & Thalji, A. (2011). Promoting subjective well-being. In M. A. Bray & T. J. Kehle (Eds), *The Oxford Handbook of School Psychology* (pp. 504-522). New York: Oxford University Press, Inc.

Thapa, A., Cohen, J., Guffey, S., & Higgins-D'Alessandro, A. (2013). A review of school climate research. *Review of Educational Research, 83*(3), 357-385. doi: 10.3102/0034654313483907

Tabachnick, B. G. & Fidell, L. S. (2013). *Using Multivariate Statistics* (6th ed.). Boston, MA: Pearson.

Turco, T. L., & Elliott, S. N. (1986). Assessment of students' acceptability ratings of teacher-initiated interventions for classroom misbehavior. *Journal of School Psychology*, *24*(3), 277-283.

Witt, J. C. & Elliott, S. N. (1985). Acceptability of classroom management strategies. In T.R. Kratochwill (Ed), *Advances in School Psychology, 4,* 251–288. Hillsdale, NJ: Lawrence Erlbaum.

APPENDIX A
INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL

ACTION ON EXEMPTION APPROVAL REQUEST

Institutional Review Board
Dr. Dennis Landin, Chair
130 David Boyd Hall
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TO: Rachel Olinger
Psychology

FROM: Dennis Landin
Chair, Institutional Review Board

DATE: March 24, 2016

RE: **IRB#** E9858

TITLE: Effects of Teacher and Peer Delivered Classroom Interventions on Subjective Wellbeing, Student Engagement, and School Connectedness

New Protocol/Modification/Continuation: New Protocol

Review Date: 3/24/2016

Approved X **Disapproved**_____

Approval Date: 3/24/2016 **Approval Expiration Date:** 3/23/2019

Exemption Category/Paragraph: 1

Signed Consent Waived?: No

Re-review frequency: (three years unless otherwise stated)

LSU Proposal Number (if applicable):

Protocol Matches Scope of Work in Grant proposal: (if applicable)

By: Dennis Landin, Chairman _____

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING –
Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. **SPECIAL NOTE: When emailing more than one recipient, make sure you use bcc. Approvals will automatically be closed by the IRB on the expiration date unless the PI requests a continuation.**

**All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at http://www.lsu.edu/irb*

APPENDIX B
TEACHER DEMOGRAPHICS FORM

The following questions will all be concerning demographic information. All information provided by you will be de-identified and used exclusively for subsequent data analysis and informational purposes as outlined in the document at the beginning of this packet.

1. What is the name of the school in which you work?: _____

2. What grade level do you currently teach?: _____

3. What subject(s) do you currently teach?: _____

4. How many years have you been teaching?: _____

5. What is the highest level of education you have completed?:
   - □ Bachelor's degree
   - □ Master's degree
   - □ Doctoral degree
   - □ Other (please specify): _____

6. Gender (choose one):
   - □ Male
   - □ Female

7. Primary Ethnic identity (choose one):
   - □ African American
   - □ Asian American
   - □ White, Non-Hispanic
   - □ Hispanic or Latino
   - □ Native American
   - □ Other (please specify): _____

8. What is your age?: _____

APPENDIX C
STUDENT-TEACHER RELATIONSHIP SCALE – SHORT FORM

Robert C. Pianta

Child: _____ Teacher:_____ Grade:_____ Date: _____

Please reflect on the degree to which each of the following statements currently applies to your relationship with this child. Using the scale below, circle the appropriate number for each item.

Definitely does not apply 1	Not really 2	Neutral, not sure 3	Applies somewhat 4	Definitely applies 5

1.	I share an affectionate, warm relationship with this child.	1	2	3	4	5
2.	This child and I always seem to be struggling with each other.	1	2	3	4	5
3.	If upset, this child will seek comfort from me.	1	2	3	4	5
4.	This child is uncomfortable with physical affection or touch from me.	1	2	3	4	5
5.	This child values his/her relationship with me.	1	2	3	4	5
6.	When I praise this child, he/she beams with pride.	1	2	3	4	5
7.	This child spontaneously shares information about himself/herself.	1	2	3	4	5
8.	This child easily becomes angry with me.	1	2	3	4	5
9.	It is easy to be in tune with what this child is feeling.	1	2	3	4	5
10.	This child remains angry or is resistant after being disciplined.	1	2	3	4	5
11.	Dealing with this child drains my energy	1	2	3	4	5
12.	When this child is in a bad mood, I know we're in for a long and difficult day.	1	2	3	4	5
13.	This child's feelings toward me can be unpredictable or can change suddenly.	1	2	3	4	5
14.	This child is sneaky or manipulative with me.	1	2	3	4	5
15.	This child openly shares his/her feelings and experiences with me.	1	2	3	4	5

APPENDIX D
BRIEF BEHAVIOR RATING SCALES

Student's Name:_____ **Date:**_____

Teacher's Name:_____

1. Follows your directions							
0	1	2	3	4	5	6	7
Never	Almost Never	Rarely	Sometimes	Often	Very Often	Almost Always	Always
2. Responds appropriately when hit or pushed							
0	1	2	3	4	5	6	7
Never	Almost Never	Rarely	Sometimes	Often	Very Often	Almost Always	Always
3. Disturbs ongoing activities							
0	1	2	3	4	5	6	7
Never	Almost Never	Rarely	Sometimes	Often	Very Often	Almost Always	Always
4. Ignores peers' distractions							
0	1	2	3	4	5	6	7
Never	Almost Never	Rarely	Sometimes	Often	Very Often	Almost Always	Always
5. Overall classroom behavior							
0	1	2	3	4	5	6	7
Very Poor	Poor	Unsatisfactory	Below Average	Above Average	Satisfactory	Good	Very Good
6. Is easily distracted							
0	1	2	3	4	5	6	7
Never	Almost Never	Rarely	Sometimes	Often	Very Often	Almost Always	Always
7. Cooperates with peers							
0	1	2	3	4	5	6	7
Never	Almost Never	Rarely	Sometimes	Often	Very Often	Almost Always	Always
8. Argues with others							
0	1	2	3	4	5	6	7
Never	Almost Never	Rarely	Sometimes	Often	Very Often	Almost Always	Always
9. Gives compliments to peers							
0	1	2	3	4	5	6	7
Never	Almost Never	Rarely	Sometimes	Often	Very Often	Almost Always	Always
10. Joins ongoing activity or group							
0	1	2	3	4	5	6	7
Never	Almost Never	Rarely	Sometimes	Often	Very Often	Almost Always	Always
11. Volunteers to help peers							
0	1	2	3	4	5	6	7
Never	Almost Never	Rarely	Sometimes	Often	Very Often	Almost Always	Always
12. Accepts peer ideas							
0	1	2	3	4	5	6	7
Never	Almost Never	Rarely	Sometimes	Often	Very Often	Almost Always	Always

APPENDIX E
STUDENT SUBJECTIVE WELLBEING QUESTIONNAIRE

Name: _____
Teacher: _____
Are you a **BOY** or a **GIRL**? _____
How many **YEARS OLD** are you? _____

Here are sentences about what you do at school. Circle the one answer that is most true for you.

		Almost Never	Some-times	Often	Almost Always
1.	I get excited about learning new things in class.	**1**	**2**	**3**	**4**
2.	I feel like I belong at this school.	**1**	**2**	**3**	**4**
3.	I feel like the things I do at school are important.	**1**	**2**	**3**	**4**
4.	I am a successful student.	**1**	**2**	**3**	**4**
5.	I am really interested in the things I am doing at school.	**1**	**2**	**3**	**4**
6.	I can really be myself at this school.	**1**	**2**	**3**	**4**
7.	I think school matters and should be taken seriously.	**1**	**2**	**3**	**4**
8.	I do good work at school.	**1**	**2**	**3**	**4**
9.	I enjoy working on class projects and assignments.	**1**	**2**	**3**	**4**
10.	I feel like people at this school care about me.	**1**	**2**	**3**	**4**
11.	I feel it is important to do well in my classes.	**1**	**2**	**3**	**4**
12.	I do well on my class assignments.	**1**	**2**	**3**	**4**
13.	I feel happy when I am working and learning at school.	**1**	**2**	**3**	**4**
14.	I am treated with respect at this school.	**1**	**2**	**3**	**4**
15.	I believe the things I learn at school will help me in my life.	**1**	**2**	**3**	**4**
16.	I get good grades in my classes.	**1**	**2**	**3**	**4**

APPENDIX F
SOCIAL-EMOTIONAL HEALTH SURVEY – PRIMARY

Name: _____ **Teacher:** _____ **Grade:** _____
Are you a **BOY** or a **GIRL**? _____ How many **YEARS OLD** are you? _____

Please CIRCLE the response that shows how true each of these statements is about you.

Example: I like strawberry ice cream.
1 = Almost never 2 = Sometimes 3 = Often 4 = Very often

1.	**I get excited when I learn something new at school** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
2.	**I finish all my class assignments.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
3.	**I am lucky to go to my school.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
4.	**I get really excited about my school projects.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
5.	**When I have problems at school, I know they will get better in the future.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
6.	**I am thankful that I get to learn new things at school.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
7.	**I expect good things to happen at my school.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
8.	**When I get a bad (low) grade, I try even harder the next time.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
9.	**We are lucky to have nice teachers at my school.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
10.	**I wake up in the morning excited to go to school.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
11.	**Each week, I expect to feel happy in class.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
12.	**I keep working until I get my schoolwork right.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
13.	**I feel thankful for my good friends at school.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
14.	**I get excited when I am doing my class assignments.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
15.	**I expect to have fun with my friends at school.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often
16.	**I do my class assignments even when they are really hard for me.** 1 = Almost never 2 = Sometimes 3 = Often 4 = Very often

APPENDIX G
USAGE RATING PROFILE – INTERVENTION (REVISED)

URP-Intervention

Directions: Consider the described intervention when answering the following statements. Circle the number that best reflects your agreement with the statement, using the scale provided below.

		Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1.	This intervention is an effective choice for addressing a variety of problems.	1	2	3	4	5	6
2.	I would need additional resources to carry out this intervention.	1	2	3	4	5	6
3.	I would be able to allocate my time to implement this intervention.	1	2	3	4	5	6
4.	I understand how to use this intervention.	1	2	3	4	5	6
5.	A positive home-school relationship is needed to implement this intervention.	1	2	3	4	5	6
6.	I am knowledgeable about the intervention procedures.	1	2	3	4	5	6
7.	The intervention is a fair way to handle the child's behavior problem.	1	2	3	4	5	6
8.	The total time required to implement the intervention procedures would be manageable.	1	2	3	4	5	6
9.	I would not be interested in implementing this intervention.	1	2	3	4	5	6
10.	My administrator would be supportive of my use of this intervention.	1	2	3	4	5	6
11.	I would have positive attitudes about implementing this intervention.	1	2	3	4	5	6
12.	This intervention is a good way to handle the child's behavior problem.	1	2	3	4	5	6
13.	Preparation of materials needed for this intervention would be minimal.	1	2	3	4	5	6

USAGE RATING PROFILE

		Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
14.	Use of this intervention would be consistent with the mission of my school.	1	2	3	4	5	6
15.	Parental collaboration is required in order to use this intervention.	1	2	3	4	5	6
16.	Implementation of this intervention is well matched to what is expected in my job.	1	2	3	4	5	6
17.	Material resources needed for this intervention are reasonable.	1	2	3	4	5	6
18.	I would implement this intervention with a good deal of enthusiasm.	1	2	3	4	5	6
19.	This intervention is too complex to carry out accurately.	1	2	3	4	5	6
20.	These intervention procedures are consistent with the way things are done in my system.	1	2	3	4	5	6
21.	This intervention would not be disruptive to other students.	1	2	3	4	5	6
22.	I would be committed to carrying out this intervention.	1	2	3	4	5	6
23.	The intervention procedures easily fit in with my current practices.	1	2	3	4	5	6
24.	I would need consultative support to implement this intervention.	1	2	3	4	5	6
25.	I understand the procedures of this intervention.	1	2	3	4	5	6
26.	My work environment is conducive to implementation of an intervention like this one.	1	2	3	4	5	6
27.	The amount of time required for record keeping would be reasonable.	1	2	3	4	5	6
28.	Regular home-school communication is needed to implement intervention procedures.	1	2	3	4	5	6
29.	I would require additional professional development in order to implement this intervention.	1	2	3	4	5	6

APPENDIX H
CHILDREN'S INTERVENTION RATING PROFILE

(Witt & Elliott, 1985)

Student name: _____ Date: _____

Consultant name: _____

We are interested in learning your ideas about the program that you are now finishing. Below are some sentences. You may or may not agree with the sentences. For each one, please circle the number that describes how much you agree or disagree with the statement. Using the following guide:

5 = I disagree very much
4 = I sort of disagree
3 = I don't agree or disagree
2 = I sort of agree
1 = I agree very much

	I agree very much	I sort of agree	I don't agree or disagree	I sort of disagree	I disagree very much
1. The things used to deal with the problem were fair.	1	2	3	4	5
2. The teacher/parent were too hard (mean).	1	2	3	4	5
3. The things used to deal with the problem might cause problems with my friends.	1	2	3	4	5
4. There are better ways to handle this problem.	1	2	3	4	5
5. The things used would be good for other children.	1	2	3	4	5
6. I like the things used to handle this problem.	1	2	3	4	5
7. The things used for this problem would help other children do better in school.	1	2	3	4	5

APPENDIX I
GRATITUDE INTERVENTION INTEGRITY CHECKLIST

Name _____ Date _____

1. Teacher held the morning gratitude meeting.	Yes	No
2. Teacher led morning meeting by modeling "three good things" gratitude statements aloud for the class.	Yes	No
3. Teacher provided three gratitude statements.	Yes	No
4. Students took turns, each listing 2-3 gratitude statements for good things that had taken place in the last day *at school.*	Yes	No
5. Teacher provided verbal praise and encouragement to students who share appropriate statements.	Yes	No
6. Teacher wrote praise notes, or "gratitude notes," to the pre-selected group of students.	Yes	No
7. Teacher hand-delivered praise notes to these students by the end of the day before dismissal.	Yes	No
8. Teacher recorded the delivery of the gratitude notes on the "Gratitude Note Record Sheet" at the end of the day.	Yes	No

Items Completed _____/_____

Total integrity _____ %

APPENDIX J
TOOTLING INTERVENTION INTEGRITY CHECKLIST

Name _____ Date _____

1. Teacher held the morning tootling meeting.	Yes	No
2. Teacher led morning meeting by announcing how many tootles were recorded the previous day and how many total tootles they have as a class.	Yes	No
3. Teacher read 4-5 tootles from the previous day.	Yes	No
4. Teacher provided verbal praise and encouragement to students who tootled and who engaged in the positive behavior.	Yes	No
5. Teacher reviewed the tootling procedure with students for the day.	Yes	No
6. Teacher provided a blank index card(s) to each student.	Yes	No
7. Teacher collected tootle cards from students by the end of the day and tallied the number of tootles from the day.	Yes	No
8. Teacher tallied the total number of tootles and recorded it on "Tootle Record Sheet."	Yes	No

Items Completed _____/_____

Total integrity _____ %

APPENDIX K
GRATITUDE NOTE RECORD SHEET

Record gratitude praise notes delivered to students with a check mark once they are delivered and record the date of the delivery.

Example: John Smith 4/13/2016 .

Student Name	Week 1	Week 2	Week 3
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____
	☐ _____	☐ _____	☐ _____

APPENDIX L
TOOTLE DAILY RECORD SHEET

Day of Intervention	Date	Total Number of Tootles
Day 1	_____	
Day 2	_____	
Day 3	_____	
Day 4	_____	
Day 5	_____	
Day 6	_____	
Day 7	_____	
Day 8	_____	
Day 9	_____	
Day 10	_____	
Day 11	_____	
Day 12	_____	
Day 13	_____	
Day 14	_____	
Day 15	_____	

APPENDIX M
ADMINISTRATOR INFORMED CONSENT FORM

We are requesting your approval and support to conduct the study titled *Effects of Teacher and Peer Delivered Classroom Interventions on Subjective Wellbeing, Student Engagement, and School Connectedness* at your school. The following sections outline the details of the study.

Purpose of the Study: Past research has clearly demonstrated the beneficial impact of promoting positive outcomes for students, particularly with the growing emphasis in schools on positive behavior interventions and supports (PBIS). In particular, there are clear benefits to improving relationships in the school setting including improving student performance across a wide range of outcomes (e.g., student engagement, academic achievement, disruptive behavior). This study is being conducted in order to examine the impact and feasibility of two classroom-based interventions designed to improve classroom relationships and student ratings of school connectedness and student subjective wellbeing, thereby providing an avenue to improving levels of student engagement in schools.

Description of the Study: We are requesting approval to conduct a study at your school on classroom interventions for enhancing school connectedness and student wellbeing. Implementing systemic approaches or obtaining the personnel to implement services can prove to be difficult, namely due to limited resources and financial constraints on schools and teachers. The cost that can often be associated with implementing high-quality and well-validated interventions highlights a need for cost-efficient, feasible, and effective interventions for fostering positive outcomes for teachers and social, emotional, and behavioral competence in our students. This study is designed to identify classwide interventions that can improve these outcomes for students and teachers over the course of three academic weeks. Three separate intervention conditions will be used in this study and results from each will be systematically compared. With your support, we will request participation in the study from upper elementary teachers at your school. Teachers will participate in only *one* of the three conditions of the design. The possible intervention conditions include, (1) a gratitude-based classwide intervention, (2) a positive peer reporting intervention called "tootling," and (3) a control condition in which no intervention is implemented.

The researchers will provide training to teachers and students on the study procedures and provide all materials before the study begins. Parental permission and student assent will be obtained. In addition to the procedures of the interventions, questionnaires will be collected to measure progress. Students will be asked to complete rating scales at three distinct times: (1) prior to the beginning of the intervention, (2) after the conclusion of the three-week intervention, and (3) again two-weeks after the intervention has ended. Teachers will also be asked to complete three brief rating scales on all students in their class with parental permission at the same three time points. On these scales, teachers will rate their relationships with each student and the quality of each student's behavior at school. We will also collect information on students' office discipline referrals (ODRs), and weekly conduct grades at the end of the week in which the questionnaires are completed. Frank Gresham, Ph.D., and Rachel Olinger Steeves, M.A., of the Department of Psychology at Louisiana State University (LSU) are conducting this research.

Benefits: Benefits to you from this study may be both direct and indirect. By participating in this study, there is the potential to see changes in the behavior of the students in your school and in the relationships in your teachers' classrooms. Teachers may experience improvement in their own relationships with their class and they may also witness changes in the wellbeing of their students. In addition, teachers will be contributing to the evidence-base surrounding effective and feasible interventions for improving student outcomes. Teachers may also gain valuable skills from participation that they can then use with other students in the future. Findings from this study will be useful in providing insight into implementing school-based interventions for improving school connectedness and student wellbeing. In addition, to show our appreciation for your teacher's time, effort, and assistance in our research efforts, we will provide each participating teacher with a $15 gift card. In order to be eligible for this compensation, the teachers must participate until the end of the study.

Risks: There are minimal risks associated with participation in this study. While teachers may feel uncomfortable rating their relationships with their students or students' behavior, the researchers will take great care to explain the rating procedures to minimize these risks. Furthermore, data will be kept completely confidential through the use of ID numbers, so that data cannot be linked to names. Additionally, should you approve and your teachers agree to participate in the intervention conditions, doing so may require some additional time on their part. However, compensation will be provided and the procedures are designed to improve the quality of their interactions with their students.

Right to Refuse: Participation in this study is voluntary and your school will only be included if you agree to participate. You may choose to withdraw your school's participation at any time without affecting your relationship with your school or with LSU.

Privacy: Data will be kept completely confidential through the use of ID numbers, so that data cannot be linked to names. Results of this study may be published, but no names or identifying information will be included.

If you have any questions about this study, you may contact Dr. Frank Gresham at (225) 578-4663 or Rachel Olinger Steeves at Rachel.m.olinger@gmail.com or (207) 423-5818, Monday-Friday 8:00 a.m. – 4:30 p.m. If you have any questions about your rights or other concerns, please contact Dennis Landin, Chairman, Institutional Review Board, (225) 578-8692, irb@lsu.edu, www.lsu.edu/irb.

By signing this form, I acknowledge that I have read and understand the above information. I also acknowledge the researchers' obligation to provide me with a copy of this consent form if signed by me.

PLEASE CIRCLE ONE:

I give approval for teachers and students at my school to participate. **YES** **NO**

Name (please print): _____

Signature: _____ Date: _____

Phone Number: _____

Email:

_____

(Please provide the email address you are most easily reached at.)

APPENDIX N
TEACHER INFORMED CONSENT FORM

We are requesting your participation and collaboration in the study titled *Effects of Teacher and Peer Delivered Classroom Interventions on Subjective Wellbeing, Student Engagement, and School Connectedness.* The following sections outline the details of the study.

Purpose of the Study: Past research has clearly demonstrated the beneficial impact of promoting positive outcomes for students, particularly with the growing emphasis in schools on positive behavior interventions and supports (PBIS). In particular, there are clear benefits to improving relationships in the school setting including improving student performance across a wide range of outcomes (e.g., student engagement, academic achievement, disruptive behavior). This study is being conducted in order to examine the impact and feasibility of two classroom-based interventions designed to improve classroom relationships and student ratings of school connectedness and student subjective wellbeing, thereby providing an avenue to improving levels of student engagement in schools.

Inclusion Criteria: Teachers included in this study must be general education teachers in upper elementary classrooms. Students must have parental consent and may not be absent for more than 5 days during the intervention period to participate in the data collection.

Description of the Study: We are requesting your assistance in this study on classroom interventions for enhancing school connectedness and student wellbeing. Implementing systemic approaches or obtaining the personnel to implement services can prove to be difficult, namely due to limited resources and financial constraints on schools and teachers. The cost that can often be associated with implementing high-quality and well-validated interventions highlights a need for cost-efficient, feasible, and effective interventions for fostering positive outcomes for teachers and social, emotional, and behavioral competence in our students. This study is designed to identify classwide interventions that can improve these outcomes for students and teachers over the course of three academic weeks. Three separate intervention conditions will be used in this study and results from each will be systematically compared. You will participate in only *one* of the three conditions of the experimental design. The possible intervention conditions include, (1) a gratitude-based classwide intervention, (2) a positive peer reporting intervention called "tootling," and (3) a control condition in which no intervention is implemented.

The researchers will provide training on the study procedures and provide all materials before the study begins. Parental permission and student assent will be obtained. In addition to the procedures of the interventions, questionnaires will be collected to measure progress. Students will be asked to complete rating scales at three distinct times: (1) prior to the beginning of the intervention, (2) after the conclusion of the three-week intervention, and (3) again two-weeks after the intervention has ended. You will also be asked to complete three brief rating scales on all students in your class with parental consent at the same three time points. On these scales, you will rate your relationships with each student and the quality of each student's behavior at school. We will also collect information on students' office discipline referrals (ODRs), and weekly conduct grades at the end of the week in which the questionnaires are completed. Frank

Gresham, Ph.D., and Rachel Olinger Steeves, M.A., of the Department of Psychology at Louisiana State University (LSU) are conducting this research.

Benefits: Benefits to you from this study may be both direct and indirect. By participating in this study, there is the potential to see changes in the behavior of your students and in the relationships in your classroom. You may experience an improvement in your own relationships with your class and you may witness changes in the wellbeing of your students. In addition, you *will* be contributing to the evidence-base surrounding effective and feasible interventions for improving student outcomes. Findings from this study will be useful in providing insight into implementing school-based interventions for improving school connectedness and student wellbeing. In addition, to show our appreciation for your time, effort, and assistance in our research efforts, we will provide each participating teacher with a $15 gift card. In order to be eligible for this compensation, you must participate until the end of the study.

Risks: There are minimal risks associated with participation in this study. While you may feel uncomfortable rating your relationship with your students or student behavior, the researchers will take great care to explain the rating procedures to minimize these risks. Furthermore, data will be kept completely confidential through the use of ID numbers, so that data cannot be linked to names. Additionally, should you be selected and agree to participate in the intervention conditions, doing so may require some additional time on your part. However, compensation will be provided and the procedures are designed to improve the quality of your interactions with your students.

Right to Refuse: Participation in this study is voluntary and you will only be included if you agree to participate. You may choose to withdraw your participation at any time without affecting your relationship with your school or with LSU.

Privacy: Data will remain completely confidential. Results of this study may be published, but no names or identifying information will be included.

If you have any questions about this study, you may contact Dr. Frank Gresham at (225) 578-4663 or Rachel Olinger Steeves at Rachel.m.olinger@gmail.com or (207) 423-5818, Monday-Friday 8:00 a.m. – 4:30 p.m. If you have any questions about your rights or other concerns, please contact Dennis Landin, Chairman, Institutional Review Board, (225) 578-8692, irb@lsu.edu, www.lsu.edu/irb.

By signing this form, I acknowledge that I have read and understand the above information. I also acknowledge the researchers' obligation to provide me with a copy of this consent form if signed by me.

PLEASE CIRCLE ONE:

I agree to participate. **YES** **NO**

Name (please print): _____

Signature: _____ Date: _____

Phone Number: _____

Email:

_____

(Please provide the email address you are most easily reached at.)

APPENDIX O
PARENTAL PERMISSION FORM

Your child, along with the rest of the students in his/her class, has been selected to participate in a research project aimed at improving student relationships and wellbeing in their classroom. The name of this project is *Effects of Teacher and Peer Delivered Classroom Interventions on Subjective Wellbeing, Student Engagement, and School Connectedness*. This study is being conducted in your child's classroom and your child's teacher has consented to participate. Your school's administrator has also consented for the project to take place in your child's classroom. Frank Gresham, Ph.D., and Rachel Olinger Steeves, M.A., of the Department of Psychology at Louisiana State University (LSU) are conducting this research.

The purpose of this study is to investigate how classroom practices aimed at either being thankful or improving peer relationships can influence students' positive experiences and thoughts about school. We are also interested in how these feelings may be linked to their engagement in class and behavior in school. The researchers are especially interested in finding out whether interventions aimed at increasing students' feelings of gratitude or encouraging positive behavior in each other can lead to more positive feelings about school and more positive behaviors in the classroom.

As part of this project, your child's teacher will be asked to complete several rating forms on your child's behavior at school. Researchers with LSU will collect these rating forms and also review your child's recent conduct grades and school reports of your child's behavior. Your child will also be asked to complete two short questionnaires about their thoughts and experiences related to school. For example, he/she might be asked how often he/she gets excited about schoolwork. At the end of three weeks, your child will be asked whether they enjoyed the process or not. This information will be collected in a way that does not identify your child

There are minimal risks associated with participation in this study. Your child may feel uncomfortable when filling out questionnaires about their feelings about school, but researchers will take care to explain everything to your child and all children in the class in order to minimize this possibility. Questionnaire results and other information about your child will remain completely confidential. Your child will be assigned a code number so he/she cannot be identified by personal information. Results of the study may be published, but no names or identifying information will be included for publication. Data will be kept confidential unless release is required by law.

By participating in this study, your child will be contributing to research knowledge about ways to improve relationships between students and teachers and how students' positive feelings about school are related to their behavior and engagement. Identifying interventions to improve students' positive feelings and experiences at school will likely benefit your child or other children in the future. In addition, should your child find the classroom activities enjoyable, your child may get direct benefits from participating, including the possibility of improving his/her relationship with other students or enjoying school more often.

Your child's participation is voluntary, and you may withdraw your child from the study at any time without affecting your relationship with your child's school or with LSU.

If you have any questions about this study, you may contact Dr. Frank Gresham at (225) 578-4663 or Rachel Olinger Steeves at Rachel.m.olinger@gmail.com or (207) 423-5818, Monday-Friday 8:00 a.m. – 4:30 p.m. If you have any questions about your child's rights or other concerns, please contact Dennis Landin, Chairman, Institutional Review Board, (225) 578-8692, irb@lsu.edu, www.lsu.edu/irb.

By signing this form, I acknowledge that I have read and understand the above information. I also acknowledge the researchers' obligation to provide me with a copy of this consent form if signed by me.

PLEASE CHECK ONE and return this completed form with your child to school as soon as possible.

____ YES, I give my permission for my child to participate in this study.

____ NO, I prefer that my child not participate in this study.

Date _____

Child's Name (please print) _____

Parent/Guardian Name (please print) _____

Parent/Guardian Signature _____

Phone Number _____ Email _____

APPENDIX P
CHILD ASSENT

I, _____, agree to be in a study to help learn more about how kids feel about school and how that's connected to their behavior in school. I will help by filling out some papers about things that happen and my feelings about school. I will also help by participating in the activities my teacher tries during the school day. I know that my conduct grades may be looked at, and that other things about me may be used to find out more about kids in school. I can decide to stop being in the study at any time without getting in trouble.

Child's Name: _____ Age:_____ Date: _____

Witness*: _____ Date: _____

*The witness must be present for the assent process, not just the signature by the minor.

VITA

Rachel Marie Olinger Steeves, a native of Marshfield, Massachusetts, received her Bachelor's Degree in psychology with a minor in elementary education from the University of New England in Biddeford, Maine. During college, she worked as a Youth and Family Counselor at a non-profit crisis stabilization agency. After receiving her bachelor's degree in 2010, Rachel worked as a Response-to-Intervention (RTI) coordinator at a middle school in southern Maine. These experiences contributed to her interest in school-based mental health and furthering the field surrounding the support for students at-risk for emotional and behavioral disorders in schools. In 2012, after two years of applied work experience, she and her husband moved to Louisiana where she entered graduate school in the Department of Psychology at Louisiana State University. She graduated with her master's degree in May 2015 in School Psychology and is currently completing her doctoral internship at Sarah Reed Children's Center in Erie, Pennsylvania. Rachel expects to graduate with her Ph.D. in August 2017 and return to Maine where she hopes to complete her post-doctoral fellowship, obtain licensure, and continue her therapeutic, consultative, teaching, and clinical work with Maine youth and families.