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Doreen Collins-McHugh  
*University of Central Florida*



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THE EFFECTS OF A LOVING-KINDNESS MEDITATION INTERVENTION ON POSITIVE  
EMOTIONS, SOCIAL CONNECTEDNESS, AND PROBLEM BEHAVIORS IN SECOND  
AND THIRD GRADE STUDENTS

by

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A dissertation in practice submitted in partial fulfillment of the requirements  
for the degree of Doctor of Education  
in the College of Education and Human Performance  
at the University of Central Florida  
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## **ABSTRACT**

Concerns about K-12 students' mental health and social, emotional, and ethical development have prompted some schools to implement programs designed to promote student well-being and healthy social and emotional functioning. Most of these programs are distinguished as social and emotional learning (SEL) programs and/or character education programs. Although there is growing empirical support for the potential of school-based mindfulness interventions to positively influence students' well-being, the number of school-based mindfulness studies is limited, and the majority of the investigations have focused on students' cognitive rather than affective capacities. Loving-Kindness Meditation (LKM), a mindfulness- and compassion-based practice, is garnering recent attention as an effective intervention for positively affecting numerous factors related to well-being. For instance, research has demonstrated LKM's effectiveness in enhancing positive emotions, empathy, and social connectedness, and improving problem behaviors in adult populations. Although LKM is a component of the Mindfulness-Based Stress Reduction (MBSR) program, and a number of mindfulness-based school programs are MBSR- adapted, to date LKM has not been studied with children or youth populations. With this in mind, the purpose of this active comparison trial investigation was to examine the effects of a loving-kindness meditation intervention on positive emotions, empathy, social connection, and problem behaviors in second- and third- grade students. Findings suggest LKM may be more appropriately used in school settings as a sequential part of a comprehensive mindfulness program and introduced after a solid mindfulness practice has been established.

Key words: loving-kindness meditation (LKM), social and emotional learning (SEL), school-based mindfulness interventions, contemplative education.

This dissertation is dedicated to my parents.  
Mom, you have always believed in me.  
Dad, you remain my  
most influential teacher of loving-kindness  
—you are truly missed.

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## CHAPTER ONE: INTRODUCTION

The imperative for making student well-being a priority has grown in recent years for a number of reasons. One factor is the growing number of K-12 students experiencing mental health problems, leading to the development of numerous psychological disorders and diminished academic performance (Roeser & Eccles, 2000). A second reason is the strong connection between high subjective well-being and the social and academic functioning of all children and youth (Zins, Bloodworth, Weissberg, & Walberg, 2007). And finally, the positive mental skills and socioemotional dispositions associated with well-being are the same character strengths indicated as foundational for lifelong success (Cohen, 2006; Heckman & Masterov, 2007; Seligman, 2012). For these reasons, schools are charged with addressing the non-academic needs of students more than ever before (Greenberg et al., 2003). Thus, finding feasible, evidence-based educational approaches—designed to both prevent psychological disorders and promote the well-being of students—has become a national concern (Jennings, 2016).

A few theoretical models have been proposed in order to understand the factors that protect against the development of psychological disorders and problem behaviors in children and youth (Schonert-Reichl & Lawlor, 2010). However, a social and emotional competence framework—one that aims to enhance the social and emotional competencies of children and youth—provides the best buffer against mental health problems, while also promoting the well-being of all students (Greenberg et al., 2003; Jennings, 2016). Similarly, the positive psychology literature indicates universal well-being interventions are useful for protecting against mental health problems and enhancing one's quality of life (Huppert, 2009). In addition, well-being can

be positively affected by interventions that increase positive emotions, empathy, and a connection to others (Fredrickson, 2013; 2014; Greenberg et al., 2003; Hutcherson, Seppala, & Gross, 2008). Given the documented imperative for increasing student well-being (Heckman & Masterov, 2007; Zins et al., 2007), and the significant roles positive emotions, empathy, and social connection play (Fredrickson et al., 2008; Hutcherson, Seppala, & Gross, 2008), this dissertation study aimed to positively affect emotions, empathy, social connection, and behaviors in second and third-grade students.

One intervention garnering recent attention for addressing factors associated with well-being and social and emotional development is mindfulness meditation (Black, 2015). In mindfulness-meditation, practices are repeated as a means of shifting attention inward to become more aware of the present moment (Kabat-Zinn, 1994). To date, mindfulness meditation has been demonstrated to produce a variety of benefits, with emerging school-based mindfulness research demonstrating improvements in academic performance, social and emotional competencies, and factors associated with psychological well-being (Black, 2015; Brown & Ryan, 2003; Napoli, Krech, & Holley, 2005; Meikeljohn et al., 2012; Schonert-Reichl & Lawlor, 2010). Interestingly, a meta-analysis on meditation indicated mindfulness-meditation is not the only type of meditation being used to address well-being (Eberth & Sedlmeir, 2012). Loving-kindness meditation (LKM), described as both a mindful- and compassion-based meditation practice, has proven particularly beneficial in enhancing positive emotions (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008), empathy (Lutz, Brefczynski-Lewis, Johnstone, & Davidson, 2008), and social connection (Hutcherson, Seppala & Gross, 2008) —principle elements of well-being and social and emotional competencies (Durlak, Weissberg, Dymnicki, Taylor, & Schlesinger, 2011). Although LKM has demonstrated a number of potential student benefits

(Fredrickson, 2001), and LKM is a component of some school-based mindfulness programs (Black, 2015), to date LKM has not been studied as a stand-alone intervention with elementary school students. Furthermore, despite the potential cognitive, affective, and social benefits of all types of meditation interventions to K-12 students, few elementary schools are utilizing meditation interventions (Greenberg & Harris, 2012). With this in mind, the goal of this study was to examine the effects of an LKM intervention on emotions, empathy, social connection, and behaviors in second- and third-grade students.

### Problem Statement

Childhood well-being has become a national concern (Heckman & Masterov, 2007). As many as one in five children has emotional or behavioral issues, negatively affecting academic, social, and emotional functioning (Merikangas et al., 2010; Roeser & Eccles, 2000; Shonkoff et al., 2012). In addition, the literature indicates that when the social and emotional needs of students are ignored, there is an increase in problem behaviors and poor academic performance (Greenberg et al., 2003; Zins et al., 2007). Of equal importance, the literature demonstrates that positive ethical values, such as kindness and compassion, are a requirement for “well-being on an individual and collective level,” as our culture becomes more interdependent and diverse (Ozawa-de Silva, Dodson-Lavelle, Raison, Negi, Silva, & Phil, 2012 p. 158). And finally, developmental neuroscience literature indicates that interventions designed to enhance well-being and positive social, emotional, and character development during formative childhood years are critical for laying the foundation for long-term school success, healthy interpersonal relationships, and positive lifelong mental health (Greenberg et al., 2003; Schonert-Reichl & Lawlor, 2010). With this in mind, attending to the well-being and social and emotional

development of K-12 students, particularly during the elementary school years, is emerging as a necessity (Jennings, 2016; Schonert-Reichl & Lawlor, 2010; Seligman, Ernst, Gillham, Reivich, & Linkins, 2009).

To address the aforementioned concerns, a number of universal programs and interventions have been developed (Dirks, Treat, & Weersing, 2007; Durlak et al., 2011; Greenberg et al., 2003). Although primarily positive, the literature on programs and interventions designed to enhance student well-being and social and emotional development has indicated some mixed results (Durlak et al., 2011). However, emerging research demonstrates meditation to be an effective well-being and social and emotional development intervention (Eberth & Sedlmeir, 2012; Schonert-Reichl & Roeser, 2016). Meditation interventions have demonstrated the ability to positively affect a number cognitive, affective, and social capacities (Eberth & Sedlmeir, 2012), as well as character strengths (Park & Peterson, 2009). One meditation practice showing particular promise for positively affecting specific factors related to well-being and social and emotional capacities is loving-kindness meditation (LKM) (Fredrickson et al., 2008; Hutcherson et al., 2008).

LKM, primarily known as a compassion-based meditation, aims to create a sense of love and kindness towards oneself and others (Salzberg, 2004). Over the last decade, more than a dozen studies have demonstrated LKM's ability to positively affect well-being (Galante, Galante, Bekkers, & Gallagher, 2014). For instance, studies have demonstrated LKM's ability to increase positive emotions (Fredrickson et al., 2008), empathy (Lutz et al., 2008), and social connectedness (Hutcherson et al., 2008), while also reducing problem behaviors (Carson et al., 2005). For these reasons, a loving-kindness meditation intervention was hypothesized as an



effective practice for enhancing a number of factors associated with well-being and social, emotional, and ethical development in second and third-grade students.

### Study Purpose

The purpose of this dissertation in practice was to examine the effects of a loving-kindness meditation intervention on second and third-grade students at a public charter school in Central Florida. Specifically, a randomized-active comparison, repeated measures- trial design was used to examine if a short (30-minute, once a week for five weeks) LKM intervention would positively affect emotions, empathy, social connectedness, and problem behaviors in second and third-grade students. These constructs were selected as they are teachable and salient contributors to well-being (Diener, 2009; Seligman, 2012), healthy social and emotional development (Zins et al., 2007), and character strengths (Niemiec, Rashid, & Spinella, 2012). LKM was chosen as the study intervention for two reasons: (1) previous LKM studies demonstrate LKM's ability to increase positive emotions (Fredrickson et al., 2008), empathy (Lutz et al., 2008), and social connectedness (Hutcherson et al., 2008), while reducing distressing psychological behaviors (Carson et al., 2005), and (2) the use of a developmentally adapted LKM intervention is supported through the conceptual lens of Social and Emotional Learning (Maloney, Lawlor, Schonert-Reichl, & Whitehead, 2016; Zins et al., 2007).

### Research Hypotheses

Hypothesis: A short five week loving-kindness-meditation intervention will positively affect emotions, empathy, social connectedness, and problem behaviors in second and third-grade students. The aforementioned factors are all related to well-being. Specifically:

1. The LKM intervention will positively affect positive emotions in students, as measured by the self-reported Positive Affect and Negative Affect Scale (PANAS) (Watson, Clark, & Tellegen, 1998).
2. The LKM intervention will increase empathy in students, as measured by the self-reported Bryant Empathy Scale (Bryant, 1982).
3. The LKM intervention will increase social connectedness in students, as measured by a self-reported response to a question based on the Social Connectedness and Social Assurance Scale (Lee & Robbins, 1995).
4. The LKM intervention will reduce problem behaviors in students, as measured by the Child-Behavior Checklist-Teacher Rated Form (Achenbach & Rescorla, 2000).

#### Significance of Study to Research and Practice

The current study is significant for a number of reasons. First, it advanced research on factors associated with well-being in second and third-grade students. As previously noted, elementary school-age children are at risk for developing psychological disorders and social and emotional problems (Merikangas et al., 2010), and childhood psychological problems and disorders are on the rise (Tan & Martin, 2012). Universal interventions designed to enhance well-being, promote healthy social, emotional, and character development have the potential to reduce psychological problems in children, to positively affect well-being, and to promote lifelong positive mental health (Greenberg et al., 2003).

Secondly, this research is significant because it was conducted in a real world context and the information gleaned can be used by teachers and administrators at this school. Given the fact that the goals of LKM are to cultivate love and kindness towards oneself and others, the intervention fits with many elementary school missions, including that of the investigational site. The investigational site's school district developed a character education program where kindness and caring are two core character strengths. In addition, kindness is listed as a core

value at the investigational site. Therefore, the study aligns with the mission of the elementary school and the school district in which it resides.

Finally, this study is significant because it addressed some gaps in the literature. Research on meditation-based interventions with children is relatively sparse, with even fewer school-based intervention studies, and no studies shown to use LKM as the sole intervention with children. In addition, much of the meditation research with children is criticized for lacking control groups and having weak designs (Britton, Lepp, Niles, Rocha, Fisher, & Gold, 2014; Burke, 2010; Roeser and Zelazo, 2012). Therefore, the current study helped to address these literature gaps by conducting research in a K-12 setting, using a loving-kindness meditation intervention, and employing an active comparison trial design.

### Theoretical Framework

#### Social and Emotional Learning Theory

The theory of social and emotional competence provides the theoretical framework for this study (Zins et al., 2007). Often referred to as social and emotional learning (SEL), social and emotional competence is defined as the ability to recognize and manage emotions, problem solve, and maintain healthy relationships (Zins et al., 2007). Social and emotional competencies have been linked to greater well-being, improved academic performance, and a number of prosocial behaviors (Durlak et al., 2011; Greenberg et al., 2003). When students master SEL competencies they begin to develop an ethical belief system that includes a concern for others (Maloney et al., 2016). Although SEL competencies encourage the ethical and moral development of students and provide a foundation for lifelong success, there is mixed evidence

on which interventions best contribute to these abilities (Durlak et al., 2011; Peterson & Seligman, 2004).

However, emerging research indicates that mindfulness-based interventions (MBIs), designed to increase mindful awareness, are effective at enhancing SEL competencies (Maloney et al., 2016). A goal of all MBIs is to increase mindfulness—with mindfulness being defined as paying attention, in a particular way, to the present moment (Kabat-Zinn, 1994; 2003). Given the fact that awareness is the first of five SEL competencies, mindfulness interventions are well-suited for SEL programs (Schonert-Reichl & Roeser, 2016). Emotional intelligence theorist and CASEL co-founder Daniel Goleman (2006) cites the cultivation of self-awareness as foundational for all SEL competencies; and self-awareness is deemed a central component of all mindful practices (Gunaratana, 2011). Although some definitions of mindfulness include the cultivation of prosocial attitudes and behaviors (Gunaratana, 2011; Kabat-Zinn, 1994; 2003), not all mindfulness conceptualizations do (Langer, 1997). Therefore, situating mindfulness and other contemplative practices within an SEL framework allows for a more holistic definition of mindfulness (Maloney et al., 2016). In an SEL framework, all meditation practices would include the promotion of kindness and compassion for others (Maloney et al., 2016; Heineberg, 2016). Therefore, the LKM intervention in the current study can be conceptualized as a mindfulness-based SEL intervention.

### Constructs

#### Well-Being

The construct of well-being is quite complex, with no single measure adequately defining or operationalizing it (Diener et al., 2009). In the positive psychology literature, the term

subjective well-being is most often used. Subjective well-being (SWB), also known as happiness, is defined as a person's evaluation of the quality of his life, which includes both affective and cognitive judgments (Diener, 2009; Park, 2004). Researchers have indicated a number of critical factors that contribute to the affective and cognitive judgments of SWB, with most conceptualizations including the experience of more positive—and less negative—emotions and one's rating of life satisfaction (Diener et al., 2009). Since life satisfaction has been demonstrated to be a relatively stable trait, not expected to change with brief interventions, life satisfaction is not always measured in well-being studies (Keyes, 2007). However, a measurement of positive affect is generally included. Positive affect refers to the frequency of positive emotions such as joy and liveliness (Watson et al., 1988). Low positive affect has been demonstrated to be related to depression, while high positive affect has been demonstrated to increase resilience and broaden thought patterns (Fredrickson, 2001; Watson et al., 1988).

Not only are there multiple dimensions to subjective well-being, there are also a number of variables involved in the promotion of it (Diener et al., 2009). LKM is one intervention that has demonstrated the potential to increase positive emotions, empathy, and social connection, while reducing problem behaviors. Therefore, this study focused on increasing positive emotions, empathy, and social connection, and reducing problem behaviors, as a means of promoting SEL competencies and well-being in second and third-grade students.

### Social Connectedness

Research is increasingly demonstrating that humans are largely social and emotional creatures (Immordino-Yang, & Damasio, 2007). Leading social connection experts, Baumeister and Leary (1995), describe the need to belong and to be accepted within one's social group as a

basic psychological need essential for survival. Studies indicate social connection to be paramount to well-being in numerous ways, as it reduces the risk of problem behaviors and increases prosocial behaviors and attitudes (Tay & Diener, 2011; Juvonen, 2006). For instance, social connection is associated with a decrease in the risk of depression and an increase in trust and cooperation (Tay & Diener, 2011). Additionally, students who feel connected to their teachers and classmates have been shown to thrive both academically and socially (Manner, DeWall, Baumeister & Schaller, 2007). Moreover, social connection is viewed as a psychological protective factor for children in school, particularly for those who are most vulnerable (Werner and Smith, 2001). Finally, a lack of social connection has been indicated as a factor in antisocial and aggressive behaviors as well as a factor in anxious behaviors in students (Juvonen, 2006).

### Positive Emotions

In addition to social connection, the experience of positive emotions is also cited as an essential contributor to the promotion of well-being and student success (Seligman, 2004). Over the last decade there have been a variety of studies looking at the adaptive value of positive emotions (Ekman, 2008; Fredrickson et al., 2008; Isen, 2000, 2009; Lyubomirsky, King, & Diener, 2005). Positive emotions produce a number of benefits, including an increase in kindness and compassion (Lyubomirsky et al., 2009). The broaden-and-build theory (Frederickson, 2001; Fredrickson et al., 2008) demonstrates how recurrent experiences of positive emotions have enduring beneficial consequences, which in turn build a number of personal resources, helping buffer against stress and psychological problems (Fredrickson, 1998, 2001). These personal resources can then be used at a later time, long after the initial positive

emotion was felt, leading to enhanced well-being. Since positive emotions expand affective and cognitive states, and negative emotions can narrow thinking, it is essential that K-12 education explicitly address students' affective states (Fredrickson, 1998, 2001; Greenberg et al, 2003). Therefore, increasing positive affect has the potential to enhance well-being as well as the potential to positively affect cognitive functioning.

### Empathy

Empathy also plays an important role in students' social and emotional development and well-being (Schonert-Reichl, Smith, Zaidman-Zait, & Hertzman, 2012). Sometimes categorized as a moral emotion, empathy is conceptualized as the feeling one gets in response to another's emotions, and/or the ability to understand and take another's perspective (Miller & Eisenberg, 1988). Empathy has been demonstrated to predict a number of prosocial attitudes and behaviors (Miller & Eisenberg, 1988). For instance, studies have demonstrated the correlation between empathy and altruism, with higher empathy predicting more altruistic behaviors in children and adolescents (Eisenberg, Spinrad, & Morris, 2006).

The connection between empathy and prosocial behaviors is important given the fact that prosocial children are accepted more by their peers, in addition to being mentally healthier (Schonert-Reichl et al., 2012). Conversely, the connection between empathy and aggression has been examined, with studies demonstrating a moderate negative correlation between empathy and aggressive, externalizing, and antisocial behaviors in pre-K-12 students (Lovett, 2010; Miller & Eisenberg, 1988). Given the positive effects empathy has on students, coupled with the negative outcomes related to empathy deficits, increasing empathic capacities in K-12 students is

important for the well-being of all students and positive school functioning (Schonert-Reichl et al., 2012).

### Key Terms and Definitions

Definitions and conceptualizations of key terms are provided to assist with clarity, as many of these terms are used differently in the literature. Loving-kindness meditation (LKM), described as both a mindful- and compassion-based meditation, is the intervention being used in this study; while positive emotions, empathy, social connectedness, and problem behaviors are the outcomes being measured.

*Compassion:* Compassion is the response to the suffering of others that motivates a desire to help.

*Character Education:* Character education describes various teachings to help students develop as moral, civic, caring, responsible, and contributing human beings and citizens.

*Character Strength:* Character strength is described as a disposition to act, in ways that benefit the self and others leading to a moral well-being (Yearley, 1990) Examples include: compassion, love, kindness, and forgiveness. In positive psychology literature, character strengths refer to a set of 24 individual positive traits (Park, Peterman, & Seligman, 2004).

*Conceptual Model of Mindfulness:* The conceptual model of mindfulness describes mindfulness as having explicit intention, attention, and a non-judging attitude. Over time, and through repeated practice, individuals shift their stance from being driven by feelings, thoughts, and experiences to a state of equanimity. This equanimity allows for a more objective view of reality (Walsh & Shapiro, 2006).



*Contemplative Education:* Contemplative education is a philosophy of education, originally concerned with higher education. Contemplative education utilizes introspection and experiential learning to assist students in developing an understanding of self and others, as well as developing analytical and critical capacities (Zajonc, 2016).

*Embodied Cognition:* Thinking is strongly influenced by agents beyond the brain, including the body, sensory and motor capacities and context (Rosch, Thompson, & Varela, 1997).

*Empathy:* Affective empathy is the feeling we get in response to others' emotions. Cognitive empathy is the ability to take another's perspective, to be able to identify and understand other people's emotions.

*Emotional Intelligence:* Emotional intelligence is the ability to identify and manage one's emotions and identify the emotions of others. It includes interpersonal awareness (understanding oneself) and intrapersonal awareness (understanding others). It also includes the ability to harness and apply emotions. And finally, it includes the ability to regulate emotions and the ability to positively interact with others (Goleman, 2006).

*Externalizing Problem Behaviors:* Externalizing behaviors are problem behaviors directed at the environment. Examples include: aggressive, violent, defiant, and criminal behaviors.

*Experiential Learning:* Experiential learning is the individual process of learning through experience. It includes a reflection on the experience of doing.

*Loving-Kindness Meditation:* Loving-kindness meditation (LKM) is a compassion-based meditation. It focuses on explicitly cultivating love and compassionate feelings by directing

positive feelings of love, kindness, and compassion towards oneself and towards others (Salzburg, 1995; Gunaratana, 2014; Kristeller & Johnson, 2005; Salzberg, 2004).

*Internalizing Problem Behaviors:* Problem behaviors directed inward towards oneself. Negative thinking and worrying are examples. Symptoms of internalizing problems include anxiety, depression, and social withdrawal.

*Kindness:* Kindness is a multidimensional character strength and it includes the motivation of acting friendly, generous, and considerate to others and recognizing these traits in others (Otake, Shimai, Tanaka-Matsumi, Otsui, & Frederickson, 2006).

*Meditation:* Meditation refers to a variety of practices that train one's awareness and attention. These practices are known to foster well-being, calmness, clarity, and equanimity (Walsh and Shapiro, 2006).

*Mindfulness:* For this study, mindfulness is defined as paying attention, on purpose and in a particular and non-judgmental way, to the present moment (Kabat-Zinn, 1994).

*Mindfulness-Based Intervention (MBI):* MBI's (also called mindfulness practices) are practices that involve paying attention in a particular way to both internal and external experiences—including meditation and yoga (Shapiro, Lyons, Miller, Butler, Vieten, & Zelazo, 2015).

*Mindfulness Based Stress Reduction (MBSR):* MBSR is the most widely studied mindfulness program in the world. Developed by Jon Kabat-Zinn (1994), MBSR is an eight-week meditation program, intended to develop the habit of being mindful. MBSR was initially designed to treat chronically ill medical patients who were not responsive to traditional medical treatments, as a means of reducing stress. Patients were able to become more non-reactive to stressors and pain, greatly improving the quality of their lives (Bishop, et al., 2004). Today,

MBSR is widely used with clinical and nonclinical populations in a variety of areas, including education (Black, 2015).

*Positive Emotions:* Positive emotions are generally characterized as those feeling states that produce positive affect. Fredrickson (2013) identifies the following as the most common positive emotions: joy, gratitude, serenity, interest, hope, pride, amusement, inspiration, awe, and love.

*Positive Psychology:* Positive psychology scientifically studies the factors, conditions, and traits that contribute to overall optimal functioning of individuals, groups, and institutions (Diener, 2009; Seligman & Csiksentmihalyi, 2014).

*Relatedness:* One of three basic psychological needs in self-determination theory (SDT), relatedness is a basic psychological need. It is described as having positive personal connections to others as well as a sense of belonging (Ryan & Deci, 2000).

*Relationships Motivation Theory (RMT):* RMT is a mini theory within SDT concerned with the psychological need of relatedness. RMT states that relatedness is not only desirable to humans, it essential to healthy adjustment and well-being. Relationships and a sense of belonging satisfy the relatedness need (Ryan & Deci, 2000).

*Social and Emotional Learning (SEL):* SEL is a process by which children acquire and apply the cognitive, affective, and behavioral skills necessary to manage emotions, develop healthy relationships, and make responsible choices (CASEL.org).

*Social Connectedness:* Feeling a sense of positive connection to others is social connectedness. Social connection is a human need that includes a sense of belonging. In SDT, social connectedness is referred to as relatedness (Ryan & Deci, 2000).

*Self-determination theory (SDT):* SDT is a framework for understanding human motivation and personality which includes six mini-theories that address different aspects of motivation. According to SDT, humans have three basic psychological needs that drive their behavior: the need for competence, the need for relatedness, and the need for autonomy.

*Social Intelligence:* Social intelligence is defined as having strong interpersonal skills, enabling one to establish and maintain healthy relationships (Goleman, 2006).

*Psychological Distress:* Psychological distress describes unpleasant feelings or emotions that impact one's functioning.

*Well-being:* Well-being is a broad construct, comprised of life satisfaction, and the amount of positive affect and negative affect that one experiences (Diener et al., 2009).

### Summary

In this dissertation in practice, the researcher used a five week loving-kindness meditation intervention as a means to positively affect emotions, empathy, social connectedness, and behaviors in second and third-grade students. Loving-kindness meditation literature, a relatively new area of study, demonstrates the ability of LKM to increase positive emotions (Fredrickson et al, 2008), empathy (Lutz et al., 2008), and social connectedness (Hutcherson et al, 2008), while reducing problem behaviors (Carson et al, 2005); these factors are all central to well-being and positive social and emotional development. The social and emotional learning framework (Zins et al., 2007) provided the conceptual foundation for this study. Social and emotional competencies have been linked to greater well-being, with mindfulness-based practices demonstrated as especially effective for promoting SEL competencies (Durlak et al., 2011; Greenberg et al., 2003). Loving-kindness meditation has shown particular promise in

positively affecting emotions, empathy, social connection, and problem behaviors—the constructs being measured in this study. This dissertation in practice is important, as the goals align with a core mission of the investigational site. Equally important, is that LKM has not been studied with elementary school-age students. Therefore, this study advances the research literature and provides the investigational site with a kindness practice that aligns with its mission.

### Organization of Study

This dissertation in practice is organized into five chapters. Chapter one includes the background of the study, the problem statement, the study purpose, the research hypotheses, the theoretical framework, the study significance, and the definitions of terms. Chapter two provides a review of the literature related to this study. Chapter three describes the methodology used in the study. Chapter four presents the research study's findings, and Chapter five provides a summary of the entire study, including a discussion of the findings, the implications of the findings, recommendations for future research, strengths, limitations, and conclusions (from Lunenberg & Irby, 2007).

## CHAPTER TWO: REVIEW OF THE LITERATURE

*Educating the mind without the heart is no education at all.*

*-Aristotle*

### Introduction

This section provides literature to support the rationale for researching the effects of a school-based loving-kindness meditation (LKM) intervention to positively affect emotions, empathy, social connectedness, and problem behaviors in second- and third-grade students. As previously noted, students' well-being and success have been negatively impacted by the growing number of children experiencing psychological problems (Mendelson et al., 2010). At the same time, there is growing evidence that the promotion of healthy social, emotional, and moral development positively impacts academic outcomes and well-being in all students (Heineberg, 2016; Zins et al., 2007). Therefore, schools today are charged with preventing mental health problems and promoting the well-being and social and emotional development of all students (Meikeljohn et al., 2012).

One promising intervention that addresses psychological disorders and enhances well-being is meditation. Although historically studied within a religious context (Baer & Krietemeyer, 2006), meditation is now being studied within numerous frameworks, including positive psychology, mindfulness, social and emotional learning, and contemplative education. All of the aforementioned frameworks share a number of overlapping goals, with the following directly related to this study: enhancing positive emotions, empathy, social connection, and reducing problem behaviors.

This literature review uses social and emotional competence theory as a conceptual framework to: (a) provide a rationale for studying positive emotions, empathy, and social connectedness in second and third-grade students, (b) provide a rationale for the use of an LKM intervention, and (c) consider how improving children's affective state, generating empathic feelings towards others, and increasing social connectedness can reduce problem behaviors, positively affect well-being, and contribute to social and emotional development. Within the SEL framework, LKM is situated as a contemplative/mindfulness-based SEL intervention.

This chapter includes the following areas of literature that are directly related to this study: (a) psychological problems in students, (b) review of non-academic school-based interventions and programs (SEL, character education, and contemplative practices), (c) the history of the positive psychology, (d) overview of well-being, (e) factors of well-being (empathy, social connectedness, positive emotions), (f) the broaden-and build theory; (g) meditation, (h) overview of mindfulness, (i) overview of school-based mindfulness interventions, and (j) a summary of the research on loving-kindness meditation.

### Psychological Problems in Students

Students are experiencing stress at unprecedented rates (Mendelson et al., 2010). Student stressors include family problems, trauma, poverty, information overload, bullying, and social and emotional problems (Greenberg et al., 2003; Mendelson et al., 2010). This increased stress has contributed to the number of students being diagnosed with psychological disorders (Mendelson et al., 2010). With 22% of K-12 students having psychological problems resulting in severe impairment, there is reason for national concern (Merikangas et al., 2010). This 22% equates to close to eight million children in the United States experiencing mental health

problems, with only eight percent of children receiving the services they need (Merikangas et al., 2010).

There are a number of factors that contribute to children's mental health problems, including biologic and genetic predispositions. However, the majority of childhood mental health issues today are considered stress-induced (Mendelson et al., 2010). Environmental stress is a main contributor to both causing and maintaining problem behaviors in children and youth (Mendelson et al., 2010). The negative effects of stress on students include problem behaviors, impairment in a number of cognitive capacities, interference with academic success, and deficits in overall functioning (Davidson et al., 2012; Greenberg et al., 2003; Mendelson et al., 2010). And the aforementioned problems—stress induced or not—are associated with a number of psychological disorders (Meikeljohn, 2012).

The majority of students' psychological problems are separated into two categories: internalized behaviors and externalized behaviors (Achenbach & Rescorla, 2000). Externalized behaviors are disruptive behaviors ranging from verbal disruptions to aggressive acts (Kuhn, Ebert, Gracey, Chapman, & Epstein, 2015). These externalized behaviors are sometimes symptoms of conduct disorder and oppositional defiant disorder (Pardini, Frick, & Moffitt, 2010). In addition, these two psychological disorders are most often associated with bullying behaviors (Juvonen, 2006). This is a problem, as bullying and other disruptive behaviors pose risks to all students because the disruptive behavior of one student can affect an entire class (Benningfeld, 2015). Conversely, the internalized behavior category includes behaviors often associated with depression and anxiety, which primarily affect the child experiencing the symptoms (Merikangas et al., 2010). Childhood and youth anxiety and depression can be



serious, as students with anxiety and depression are at risk for self-harming thoughts, behaviors, and suicide (Merikangas et al., 2010).

Internalized and externalized problem behaviors pose many risks to students; however, the most common childhood behavioral problems are problems related to attention and executive functioning (Carboni, Roach, & Fredrik, 2013). An estimated 16% of all elementary school age children exhibit some form of attentional difficulties. Students who go on to exhibit significant impairment in attention, self-regulation skills, or hyperactivity behaviors may be diagnosed with attention deficit hyperactivity disorder (ADHD) (Carboni et al., 2013). Children with ADHD often have difficulty sustaining their attention, maintaining goals and plans, and/or inhibiting their responses. As a consequence they are inattentive, hyperactive, and/or impulsive (van der Oord, Bogels, & Peijnenburg, 2011). More than 50% of students with ADHD experience social difficulties, and more than 30% fail to achieve academically at their expected levels (Carboni et al., 2011).

Evidence-based treatments for ADHD include medication and behavioral interventions; however, both have serious limitations. Medication limitations include the failure to work long term and numerous adverse-effects. In addition, research indicates only one third of the children diagnosed with ADHD receive the recommended treatment interventions (van der Oord et al., 2011). Therefore, poor treatment or no treatment is the predominant experience of children diagnosed with any type of psychological disorder (Merikangas et al., 2010). Given the serious negative consequences related to psychological problems in students, the lack of treatment, and the treatment limitations, attending to the psychological needs of students has become a national imperative (Merikangas et al., 2010).

### Developmental Implications of Psychological Disorders

Although the early years of life are most critical in preventing problem behaviors and psychological disorders, the middle childhood years may also be an important time for prevention interventions (Merikangas et al., 2010). To illustrate, there are a number of psychological disorders that have a two to four year time frame between the first psychological symptom and the onset of the disorder (Merikangas et al., 2010). Examples include disruptive behavioral disorders, anxiety and depressive disorders, and attention disorders. Children with the aforementioned disorders often exhibit symptoms in early and middle childhood, but they do not meet the diagnostic criteria for the disorders until years later (Merikangas et al., 2010). This time span—between the first symptom and the time when a diagnosis is warranted—occurs during the elementary school years. For instance, ADHD, oppositional defiance disorder, anxiety, and depression have an onset of symptoms occurring between the ages of 6-10, with a diagnosis typically not occurring until ages 8-12 (Merikangas et al., 2010). Therefore, interventions aimed at reducing psychological symptoms and behavioral problems may reduce the number of students being diagnosed with psychological disorders (Merikangas et al., 2010).

Developmentally, the age span between ages 9 and 12 is identified as a critical transitional period (Eccles, 1999). The preadolescence ages of 9-10 is considered a prime time for promoting social and emotional competence and well-being (Schonert-Reichl & Lawlor, 2010). During this developmental period, behaviors and competencies mold to form patterns of beliefs and habits that can persist into adulthood (Schonert-Reichl & Lawlor, 2010). As an example, 9 to 12 year olds increasingly become less self-centered, have the ability to empathize with others, and have greater moral and social understanding (Schonert-Reichl & Lawlor, 2010). During this time period children are also developing capacities that enable more reflection and

awareness (Schonert-Reichl & Lawlor, 2010). Therefore, the middle childhood time frame is considered a prime developmental period for well-being interventions (Schonert-Reichl & Lawlor, 2010). This is relevant to the current study, as the participants were second and third-grade students, developmentally categorizing them in the middle childhood years.

Also notable, universal school-based well-being interventions have the potential to benefit all students, not just those at risk for psychological problems (Durlak et al., 2011). Given the evidence that social and emotional skill deficits—displayed in students with and without psychological disorders— can have serious negative consequences, universal well-being programs are necessary (Benningfied, 2015). There are a number of universal well-being interventions demonstrating positive results, particularly those that have both a prevention and promotion focus (Lee, Horvath, & Hunsley, 2013). With theory and research supporting the developmental nature of social, emotional, and behavioral disorders, coupled with the amount of time children spend in schools, schools are now considered the optimum intervention and prevention effort location (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004; Merikangas et al., 2010). As such, there is a clear rationale for implementing universal K-12 interventions aimed at strengthening the foundations of mental health and well-being, particularly during the elementary school years (Merikangas et al., 2010).

#### School-Based Programs and Interventions for Non-Academic Needs

The stresses of modern life have contributed greatly to the number of students who come to school unprepared and with mental health issues, leading to the development of numerous psychological disorders, social and behavioral problems, and diminished academic performance (Roeser & Eccles, 2000). As such, schools today are charged with addressing the non-academic

needs of students more than ever before (Catalano et al., 2004; Greenberg et al., 2003). This sentiment is detailed in the New Freedom Commission on Mental Health report (Hogan, 2003) that addressed the strong connection between mental health and school success. Since positive mental health is essential to learning in children, K-12 schools must take on a more prominent role in the mental health care of students (Hogan, 2003). It is essential to understand, however, that positive mental health is more than an absence of psychological disorders; it includes positive social and emotional development and well-being (Seligman, 2012). The New Freedom Commission on Mental Health report led to various initiatives and policy changes, prompting K-12 schools to find ways to address the mental health, social, emotional, and ethical development of all students (Hogan, 2003). These mental health and well-being programs come in the form of both prevention and intervention efforts—with many of these programs categorized as social and emotional learning programs (SEL) (Zins et al., 2007), character education programs (Likona, 1996) and more recently, contemplative education programs (Davidson et al., 2012; Zajonc, 2016).

### Social and Emotional Learning

As previously noted, social and emotional competence theory provided the conceptual framework for this study. This section will provide the history and conceptualization of SEL. In 1994, concern about the ineffectiveness of many school-based mental health promotion efforts prompted the meeting of prevention researchers and educators who were involved in efforts to enhance children's positive development (Greenberg et al., 2003). This meeting was organized by the Fetzer Institute, and the institute was credited for developing the term social and emotional learning (SEL). SEL was conceptualized as both a framework for addressing the

social and emotional needs of children and youth, and the programs that address those needs (Elias, 1997). SEL is defined as

The process through which children and adults acquire the knowledge, attitudes, and skills to: recognize and manage their emotions, set and achieve positive goals, demonstrate care and concern for others, establish and maintain positive relationships, make responsible decisions, and handle interpersonal situations effectively (Payton, Weissberg, Durlak, Dymnicki, Taylor, Schellinger & Pachan, 2008, p. 6).

As a result of the Fetzer meeting, prominent psychologist and emotional intelligence theorist Daniel Goleman (2006) co-founded the Collaborative for Social and Emotional Learning (CASEL) (Greenberg et al., 2003). CASEL has spent the past two decades establishing evidence-based SEL programs to promote positive academic, social, and emotional behaviors (Zins et al., 2007). Based on the definition of SEL, CASEL has identified five areas of interrelated constructs as the five core SEL competencies: self-awareness, self-management, social awareness, relationship skills, and responsible decision making (Zins et al., 2007). Students who develop these competencies have demonstrated long-term gains in academic and personal success (Payton et al., 2008; Zins et al., 2007). SEL programs are designed as prevention programs to address students' social and emotional competencies in a variety of ways. Some programs target specific behaviors (e.g. violence) and other programs target multiple areas in mental health promotion and positive youth development (Durlak et al., 2011). Emotional intelligence theory (see Salovey & Mayer, 1990; Goleman, 2006) strongly influenced the SEL movement (Elias, 1997), and emotional intelligence is defined as having strong interpersonal and intrapersonal skills, which allow for healthy emotional regulation and positive relationships (Goleman, 2006).

Although initially met with some criticism, today there is a plethora of research supporting the need for SEL in K-12 settings, as well as research validating early emotional intelligence theories (Durlak et al., 2011). SEL programs have demonstrated positive outcomes in numerous areas including positive youth development (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2002), prosocial behaviors, mental health, antisocial behaviors, academic outcomes, and learning (Durlak et al., 2011; Zins et al., 2007). Although these outcomes are quite positive, there has been some mixed evidence on the types of SEL programs and interventions that produce the best results (Durlak et al., 2011).

The first large-scale meta-analysis on school-based SEL programs (Durlak et al., 2011) explored universal program outcomes in the following areas: social and emotional skills, attitudes toward self and others, positive social behavior, conduct problems, emotional distress, and academic performance. In addition, Durlak et al. (2011) looked at how well programs could be incorporated into the curriculum, who taught the interventions (school staff versus non-school personnel), and length of programs. Prior SEL program reviews indicated that whole school, multi-year programs, with multiple components, taught by school staff provided the best results (Greenberg, et al., 2003). However, a more recent meta-analysis (Durlak et al., 2011) indicated that long term, multi-component programs taught by school personnel were no more successful than shorter term, single-component programs. In fact, the need for simple and easy to implement SEL programs was noted. Although the types of programs and deliveries yielded mixed results, the following were associated with positive program outcomes: teacher buy-in, effective implementation, active forms of learning, and sufficient time for skill development. Overall, this meta-analysis (Durlak et al., 2011) documented significantly positive outcomes in

improving SEL competencies, increasing prosocial behaviors, reducing problem behaviors, and increasing academic performance.

Although these results are promising, a few issues have been noted. The fact that there is no standardized approach for measuring SEL competencies makes measuring program effectiveness and student abilities problematic (Dirks, Treat, & Weersing, 2007). Also troublesome is the fact that many of the SEL studies neglected to provide detailed program delivery information. Equally problematic is that many SEL programs failed to provide a theoretical foundation, creating a lack of clarity regarding the mechanisms of change (Dirks et al., 2007). To this point, there are a variety of person-centered explanations for why an SEL program produces positive academic results. These explanations include self-awareness and confidence (Cherniss, Extein, Goleman, & Weissberg, 2006), stress management and organizational skills (Duckworth & Seligman, 2006), and problem-solving skills (Zins & Elias, 2006). However, research also indicates that interpersonal and environmental supports such as a positive teacher-student relationship and a safe and caring climate contribute to students' social, emotional, and behavioral development (Durlak et al., 2011). With this in mind, there is a demand for more theory-driven research to better assess SEL competencies and understand the connections among them (Dirks et al., 2007). In the current study, it was theorized that social and emotional competence would be gained through a contemplative intervention aimed at increasing factors associated with well-being. Both interpersonal (social connection and empathy) and person-centered qualities (positive emotions, problem behaviors) were addressed in this intervention.

## Character Education

Another category of programming initially designed to address the non-academic needs of students is character education. Character education (CE) is defined as an explicit effort to develop ethical and moral development in students (Lickona, 1993; 2009). There is a presumed universal and objective standard of right and wrong in character education that includes the moral attributes of respect, responsibility, honesty, caring, kindness, and fairness (Lickona, 1993). Although historically most K-12 schools have valued these character attributes, it was not until the 1980s when schools began explicitly pronouncing a commitment to character education, with federal funding supporting the efforts (Lickona, 1993). A growing body of longitudinal research has demonstrated that the social competencies and ethical dispositions that define character education—respect, honesty, care, kindness, responsibility, and fairness—provide the necessary foundation for developing ethically minded citizens (Cohen, 2006).

Although numerous studies and federal reports indicate the positive effects of character education (Cohen, 2006), there remains controversy over the program approaches and philosophical underpinnings (Linkins, Niemiec, Gillham, & Mayerson, 2015). Some CE programs emphasize a prescriptive approach to teaching core character traits and values, where the focus is on obeying and enforcing the rules (i.e. be fair, show respect). With this approach, character traits are considered to be external attributes that need to be dictated (Peterson & Park, 2009). Other CE programs propose that these moral and ethical constructs are innate in all students and that these innate capacities need to be nurtured— as opposed to being prescribed or dictated (Peterson & Park, 2009). The goal of CE programs that follow a nurture philosophy is to assist students in identifying their own individual character strengths, as opposed to an enforcement of rules (Peterson & Park, 2009).



These *nurturing* CE programs follow a strength-based approach, helping students identify and nurture innate capacities (Peterson & Park, 2009). Since character strengths are critical to lifelong learning and success (Linkins et al., 2001), programs that develop students' innate character capacities are considered supreme (Duckworth & Seligman, 2006). In one study (Peterson & Park, 2009) perseverance, love, gratitude, and hope were shown to be more important than IQ in determining students' grade point averages. Of interest to the current study, love and hope were found to be positively correlated with positive relationships, reduced anxiety and depression, perseverance, and well-being (Peterson & Park, 2009). In light of research demonstrating that character strengths are equally, if not more, important than intellect in determining academic success (Duckworth & Seligman, 2006), finding ways to nurture these non-cognitive capacities is increasingly becoming a priority in K-12 education (Linkins et al. 2015; Peterson & Park, 2009). Since the current study's intervention cultivated a sense of love and a hope for oneself and others to be well, it followed a strength-based approach to moral and character development, as LKM has demonstrated the ability to nurture these innate capacities (Linkins et al. 2015; Peterson & Park, 2009; Salzberg, 2004).

### Contemplative Practices

Both social and emotional learning (SEL) programs and character education (CE) programs employ a wide range of techniques, with recent literature including contemplative practices (Heineberg, 2016). Programs with a mindfulness and/or contemplative component offer particular promise in fostering many of the SEL and character education capacities (Grossman, Niemann, Schmidt, & Walach, 2004; Heineberg, 2016; Zajonc, 2016).

Contemplative practices such as meditation and yoga involve paying attention in a particular way

to both internal and external experiences (Shapiro et al., 2015). Although contemplative practices involve a regulation of attention, they also include the development of moral and ethical values (Shapiro et al., 2015).

Some definitions of mindfulness include the cultivation of a prosocial attitude (Kabat-Zinn, 1994). However, not all definitions of mindfulness include the promotion prosocial attitudes and behaviors (Langer, 1997). Given the conceptual differences regarding mindfulness, situating mindfulness as a contemplative practice allows for a *nurturing* of character strengths by fostering competencies in social and emotional learning, civility, kindness, compassion, and many other prosocial behaviors (Hart, 2004; Peterson & Park, 2009). The use of contemplative practices in educational settings have enhanced student performance, character, and depth of learning (Roeser & Peck, 2009; Shapiro et al., 2015). As such, K-12 and higher education settings are beginning to show interest (Shapiro et al., 2015). Contemplative practices are useful for SEL and CE goals, as contemplative practices cultivate ethical awareness, develop prosocial capacities, and provide a foundation for life-long success (Hart, 2004; Roeser & Peck, 2009).

Contemplative practices also address some of the pedagogical challenges in found in SEL interventions (Greenberg & Harris, 2012). One of the challenges in teaching emotional concepts—such as empathy and kindness—is that the lessons need to be fully integrated into students’ experience in order to facilitate a deep way of knowing (Greenberg & Harris, 2012). Contemplative practices address this challenge by providing an experiential and sensory approach to learning (Immordino & Damascio, 2007). Students are able to experience the felt sense of the practice, and gain a first-person sense of knowing (Hart, 2004). For instance, students come into direct contact with their own sense of kindness, not as a concept but as an embodied way of knowing (Zajonc, 2016). With consistent formal contemplative practice,

students can build self-awareness, of both body and mind, enabling the lesson to become holistically a part of them, as opposed to being an external skill that is learned (Hart, 2004; Kabat-Zinn, 1994).

Interestingly, self-awareness is fundamental to SEL, as it is the first of five competencies (Zins et al., 2007). Self-awareness cultivates an ability to choose positive behaviors (Zajonc, 2016). For instance, self-aware and kind actions and thoughts allow kindness to become a part of the person practicing it—not just an act or thought (Zajonc, 2016). This exemplifies a nurturing of students' innate capacities, as opposed to a prescribing of them (Peterson & Park, 2009). In particular, the contemplative practice of LKM has been shown to provide practitioners with the opportunity to emotionally deal with contradicting feeling and thoughts. When one wishes happiness and peace to a “difficult person”, as is the practice in LKM, there is an opportunity for balancing and negotiating contradictory feelings (Zajonc, 2016). Through practice, LKM can transform negative feelings towards others into feelings of compassion (Hutcherson et al., 2014). In addition, contemplative practitioners become more comfortable with silence and reflection (Grossman et al., 2004). Although the current study's participants were second- and third-grade students, a few indicated an awareness of life's emotional imbalances as they shared very insightful reflections. And some student reflections suggested experiences of embodied cognition (to be discussed in chapter four). Finally, although research indicates that contemplative practices benefit students of all ages (Hart, 2004), developmental neuroscience articulates the importance of introducing age appropriate contemplative practices with young children (Zelazo & Lyons, 2012). This is because contemplative practices support the brain growth necessary for the development of so many skills that are essential for social, emotional, and cognitive learning (Shapiro, 2015; Zelazo & Lyons, 2012). This again speaks to

the importance of nurturing SEL and CE capacities and traits, as opposed to externally reinforcing these factors (Peterson & Park, 2009).

Ultimately, social and emotional learning, character education, and contemplative practices share a number of goals. The current study's intervention, LKM (both a compassion- and mindfulness-based intervention), addresses a number of goals in the SEL and CE frameworks. Specifically, self-awareness, kindness, care, compassion, and connection to others are explicitly taught in LKM (Fredrickson et al., 2008; Hutcherson et al., 2008; Salzberg, 2004), and these faculties are demonstrated to be favorable character strengths in positive education research (Park & Peterson, 2009; Park, Peterson, & Seligman, 2004). Positive education is defined as an education that puts character strengths and well-being on an equal plane with academics, and positive education has its roots in the field of positive psychology (Seligman et al., 2009). Thus, this study's developmentally adapted LKM intervention, impacting factors associated with student well-being, is best described as a contemplative/mindful-based SEL intervention.

### Positive Psychology

The aim of this study was to both reduce problem behaviors and to increase factors associated with well-being. This goal aligns with the field of positive psychology, which includes both the prevention of psychological problems and the promotion of positive mental health. Therefore, a brief overview of positive psychology is provided. The positive psychology movement emerged in reaction to psychology's pathology- focused model of mental health; one that focused on studying the treatment of human weaknesses as a means to improve human functioning (Seligman & Csikszentmihalyi, 2014). An absence of mental health issues was

equated with psychological health—ignoring human strengths and resilience (Diener, 2009; Seligman & Csikszentmihalyi, 2014). In contrast, positive psychology conceptualizes healthy functioning not only by the absence of mental health problems but also by considering indicators of positive mental health. The goals of positive psychology are to scientifically study the factors, conditions, and traits that contribute to overall optimal functioning of individuals, groups and institutions (Diener, 2009; Seligman & Csikszentmihalyi, 2014). The roots of positive psychology can be traced back to 1998, when Martin Seligman, president of the American Psychological Association at the time, chose positive psychology as the theme for the annual convention. Seligman (2004) was disenchanted with psychology’s medical model focus, and wanted to expand the field to study more than symptom reduction and mental illness. Mihalyi Csikszentmihalyi, Ed Diener, and Sonja Lyubomirsky are some notable positive psychologists who joined Seligman in the quest to scientifically study what makes people flourish and thrive.

Some trace the positive psychology movement to the Humanistic movement of the late 1950s and early 1960s. Humanists, most notably Abraham Maslow and Carl Rogers, were critical of psychology’s emphasis on psychodynamic and behavioral orientations (King, 2013). These prevailing schools of thought employed a medical model that humanists believed to be reductionist and limiting (King, 2013). Humanism espouses that people are inherently good and are motivated to become the best version of themselves (Rogers, 1980). Rogers believed that people were more than the sum of their parts, prompting him to develop a more holistic approach to treatment. In Roger’s client-centered therapy, the goal was to provide an environment where people could be responsible for their own development, make conscious choices, and seek the meaning and purpose of their lives (Rogers, 1959).

Although there are many similarities, Seligman (2004) has denied the direct connection of positive psychology and humanism. For one, positive psychology is committed to rigorous scientific research, and many humanistic theories have been criticized for their lack of scientific evidence (Seligman, 2004). Secondly, humanism focuses solely on the individual, while positive psychology is concerned with both individuals and society (Seligman, 2004). Regardless of Seligman's (2004) position, there is no denying that positive psychology examines many aspects of human functioning that have clear humanistic roots (Diener, 2009). Today, positive psychology's main emphasis is researching the positive indicators of mental health and the factors that contribute to improving quality of life (Seligman & Csikszentmihalyi, 2000; Seligman, 2012).

### Well-being

The well-being of individuals is arguably the ultimate focus of positive psychology today (Seligman, 2012). Sometimes referred to as one's state of happiness or mental health, well-being is a multidimensional construct that includes both affective and cognitive components (Diener, 2009). The main components of well-being are high positive affect, low negative affect, and high life satisfaction— all related but distinct constructs (Diener, 2009; Lyubomirsky et al., 2005). The cognitive component is related to the appraisal of life satisfaction, where people judge whether aspects of their life meet their expectations (Diener, 2009). In contrast, the affective component is comprised of both the presence of positive affect and the absence of negative emotional experiences (Diener, 2009). People with high positive affect and low negative affect display more desirable behaviors and are more productive and social (Diener,

2009). In addition, positive emotions lead to exploration and mastery, which leads to even greater positive emotions (Seligman, 2004; Fredrickson, 1998).

Children's well-being, also multi-dimensional, includes physical, emotional, mental, and social indicators (Statham & Chase, 2010). Although a number of objective measures (i.e. health status) contribute to well-being, the current study is concerned with the particular subjective markers of psychological well-being that include positive emotions, empathy, social connectedness, and an absence of problem behaviors (Diener et al., 2009; Hutcherson et al., 2008; Greenberg et al., 2003). Not only are these indicators foundational to well-being, they are also malleable capacities that begin in early childhood (Heinberg, 2016).

Interestingly, the well-being literature distinguishes hedonic well-being from eudemonic well-being (Ryan & Deci, 2001). The concept of hedonism can be traced back to ancient Greece, and it is defined as a striving for maximum pleasure and minimization of displeasure (Diener & Scollen, 2006). In contrast eudemonic well-being, a concept some credit to the Humanist movement of the 1960s, is to reach one's full potential (Ryan & Deci, 2001). Today positive psychologists refer to eudemonic well-being as flourishing (Seligman, 2012), with flourishing defined as pushing oneself to accomplish something meaningful (Csikszentmihalyi, 2015). Surprisingly, over the past fifty years in the United States, hedonic measures of well-being have increased (i.e. wealth), yet there has been little increase in people's appraisal of their well-being (Seligman, 2012). Some attribute this slow growth of reported well-being to the lack of connectedness that is growing in the United States (Putnam, 2000). Others believe the stresses of modern life have increased psychological problems (Seppala, Rossomondo, & Doty, 2013). Yet others speculate Americans' priorities may be askew by focusing on more hedonic and less eudemonic (meaning and purpose) goals (Diener, 2004). And, while the appraisal of

well-being has not increased in the United States, student well-being continues to strongly influence social, emotional and psychological health, positive school functioning, and lifelong success (Greenberg et al., 2003; Seppala et al., 2013). As an example, a study of students in grades 6th to 8th demonstrated those with high levels of subjective well-being were found to be more academically successful (Suldo & Shaffer, 2008). Conversely, students in this study with low subjective well-being were not only less academically successful, they had a number of social and emotional problems (Suldo & Shafer, 2008). This study (Suldo & Shaffer, 2008) is one of many (Durlak et al., 2011) that found student well-being to be predictive of social and academic functioning.

### Factors in Well-Being

As previously noted, there are numerous conceptualizations of well-being, with even more factors associated with each of the constructs. Well-being is a multidimensional construct that includes positive feelings, positive appraisals, and positive functioning (Seligman, 2012). A prominent well-being model used in the educational literature is Seligman's PERMA model of well-being (2012). There are five dimensions in the PERMA model: positive emotions, engagement, positive relationships, meaning and accomplishment (Seligman, 2012). Although related, these dimensions can be both pursued and measured individually (Kern, Waters, and Adler & White 2015). In addition, the dimensions that are most valued by children and youth are positive emotions and relationships (Kern et al., 2015). And since empathy, social connection, and positive emotions are demonstrated to be malleable constructs of well-being (Seligman, 2012) and amenable to a loving-kindness meditation practice, they are the focus of the current study.



## Empathy

Empathy has been conceptualized in many ways, with contemporary researchers differentiating between the affective and cognitive states of empathy (Eisenberg, Spinrad, Morris, 2006). Affective empathy refers to as a person's vicarious matching of another's affective state. As an example, to empathize with someone who is anxious, a person might feel tension in his or her body and mirror similar feelings of anxiety (Miller & Eisenberg, 1988). In cognitive empathy, sometimes referred to as perspective taking, one understands the feelings of another, as opposed to feeling the feelings of another (Miller & Eisenberg, 1988). Both aspects of empathy are important as they help one to understand others, and as such empathy is deemed essential to developing and maintaining positive relationships (Goleman, 2006). It is the affective part of empathy that is thought to leads one to moral and compassionate action (Miller & Eisenberg, 1998). To this point, a sociopath, high in cognitive empathy, can use that empathy to act antisocially (immorally) towards another. In contrast, when one has affective empathy for another it is more difficult to act aggressively towards that person (Roberts & Strayer, 1996). It is due to empathy's connection to both prosocial and antisocial behaviors that it is sometimes referred to as a moral emotion (Eisenberg, 2000).

The inverse relationship between empathy and externalizing (aggressive and antisocial) behaviors is well-documented (Lovett, 2010; Miller & Eisenberg, 1988). A review of 17 studies examining the relationship between affective empathy and aggression in children and adolescents indicated mostly negative relationships between the two variables (Lovett, 2010). In addition, in an older meta-analysis that reviewed 49 studies, empathy was negatively related to aggression and externalizing behaviors (Miller & Eisenberg, 1988). Conversely, the literature indicates a positive correlation between empathy and prosocial behaviors (Eisenberg & Miller,

1988). One study of 73 students, ages 5-13, found a strong connection between empathy and cooperative behaviors (Roberts & Strayer, 1996). Another study of 478 second, fourth, and sixth-graders—examining the connection between empathy and altruism— found affective empathy and perspective taking predicted more altruistic behaviors (Eisenberg, Spinrad, & Morris, 2006).

Aside from the extreme influences empathy has on behaviors (i.e. anti-social to pro-social), empathy is crucial for the development of all healthy relationships (Goleman, 2006). Goleman (2006) cites empathy as a central factor in emotional intelligence. Without empathy one is incapable of getting along with others, resolving conflicts, and authentically expressing care and concern. Likewise, being able to sense another's affective state is crucial to social bonding, and it is empathy that guides compassionate action (Goleman & Senge, 2014). To this point, a third-grade teacher interviewed in a recent study on the conceptualization of affective learning in gifted students cited empathy as one of the most important capacities students need in order to work well with others in collaborative groups (Cavilla, 2016).

In light of empathy's demonstrated connection to many important relational behaviors, it is alarming to note that some literature indicates children are less empathic today than they were a decade ago (Schonert-Reichl, Zait, & Hertzman, 2012). Some researchers attribute this lack of empathy to the prolonged stress students are experiencing (Schonert-Reichl, Zait, & Hertzman, 2012). As previously discussed, prolonged stress—from poverty, bullying, mental illness, and academically-related school pressures (i.e. high stakes testing) — is adversely affecting children and youth (Pechtel & Pizzagalli, 2011). Unfortunately, there is no indication of these stressors waning, with studies showing some stress factors are on the rise. As an example, half of all K-12 children today live in poverty; a steadily growing statistic (Pechtel & Pizzagalli, 2011).

Therefore, researchers and practitioners, more now than ever, need to be concerned with helping K-12 children develop empathy (Schonert-Reichl et al., 2012). With this in mind, empathy training is now a part of many SEL and CE programs (Durlak et al., 2011; Schonert-Reichl et al., 2012). And perhaps most salient is that empathy can be taught (Schonert-Reichl and Lawlor, 2010), and increasing a sense of connection to others is one way to increase empathic response in K-12 students (Cialdini, Brown, Lewis, Luce, & Neuberg, 1997).

### Social Connectedness

Social connection is another central contributor to student well-being, and it is often conceptualized as a fundamental psychological need (Baumeister & Leary, 1995; Deci & Ryan, 2000). Seppala et al. (2015) defines social connection as the sense of having deep, meaningful, and positive social relationships. And feeling socially connected is vital to optimum human functioning and flourishing (Baumeister & Leary, 1995; Seppala et al., 2015). When one connects to another in a compassionate and empathic way, a sense of social connectedness occurs, greatly benefiting one's mental health and overall well-being (Seligman & Csikszentmihalyi, 2014). In school settings, social connectedness can predict a range of prosocial and antisocial behaviors. For instance, feeling socially connected in childhood promotes the following benefits: increased self-worth, a sense of emotional security, a context for bonding, perspective-taking, and social competence (Pöyhönen, Juvonen, & Salmivalli, 2010). In one study, induced social connection created an increase in perspective taking, leading to altruistic behaviors (Batson, 1991). In another study (Patton et al., 2006), middle school participants that took part in a two-year program designed to increase social connection, demonstrated significant positive results in a number of well-being areas. Results revealed

lower reported levels of psychological distress and risky and antisocial behaviors demonstrating the importance of social connection to well-being (Patton et al., 2006),

Further support for social connection's prominent role in well-being is articulated in self-determination theory (SDT) (Ryan & Deci, 2000). SDT is a widely accepted framework for the study of motivation and personality (Ryan & Deci, 2000). The need for social connection, termed relatedness in SDT, is described as one of three psychological needs, in addition to autonomy and competence. In Relationships Motivation Theory (RMT), a mini theory within SDT, relatedness, or social connection, provides the foundation for well-being, as well as a foundation for positive, goal directed behavior (Ryan & Deci, 2000). SDT theorists, Deci and Ryan (2001) state SDT's most important contribution is its focus on the factors that enhance and undermine people's sense of purpose, well-being, and performance quality. Therefore, fostering social connectedness in students has the potential to enhance student well-being and school success, as numerous theories and studies demonstrate the centrality of social connection to positive functioning (Baumeister & Leary, 1995; Bird & Markle, 2012; Ryan & Deci, 1991; 2001).

### Positive Emotions

...we have evolved a set of emotions that enable us to lead a meaningful life, emotions such as gratitude, mirth, awe, and compassion. The key to happiness is to let these emotions arise, to see them fully in oneself and in others, and to train the eye and mind in the practice (Keltner, 2009, p. 48).

Positive emotions—such as joy, happiness, and love—have multiple functions (Frederickson, 2008). These functions include: being markers of well-being, triggering approach behaviors, and offsetting negative emotions. However, Keltner's (2009) sentiments are clear; those positive emotions that encourage a sense of gratitude and connection to others

are what matter most. Over the last decade the adaptive value of positive emotions has been a focus (Keltner, 2009). Positive emotions contribute significantly to better life outcomes including mental health, supportive relationships, effective coping, and longevity (Lyubomirsky, King, & Diener, 2005). In contrast, negative emotions are linked to psychological distress, anxiety, and depression. From an evolutionary perspective, humans are primed to be vigilant against potential threats (Keltner, 2009). This contributes to the overvaluing of negative events, recognizing negative events more quickly, and remembering negative events longer than positive events (Benningfield et al., 2015). The proclivity to focus on negative events has a number of important implications. For one, negative emotions have been shown to inhibit both psychological and cognitive growth (Seligman et al., 2009). In addition, negative emotions narrow attention and thinking (Carver, 2003). This tendency to think and feel negatively quicker than feeling positive speaks to the importance of learning to savor positive experiences and encouraging positive emotions (Keltner, 2009).

Social psychologist Alice Isen (2000) was the first to study the influence of positive emotions on cognition and behavior. Isen, a pioneer in positive emotion research, spent more than forty years studying the social and cognitive effects of positive emotions (Fredrickson, 2011). Isen's work suggested that positive emotions enhance and expand cognitive capacities. Isen was one of the first to consider how positive emotions are a source of human strength and that positive emotions lead to open-minded, flexible thinking. In one study, positive emotions were demonstrated to facilitate creative problem-solving (Isen, Daubman, & Nowickie, 1987). In another, participants who received a treatment to positively influence their affective state did significantly better than controls on cognitive tasks. In another study, Isen (2000) found positive

emotions to be critically important to self-regulation. All of Isen's work showed how vital it is for educators to consider the emotional state of their students (Fredrickson, 2011).

Supporting Isen's work, affective neuroscience is now demonstrating how inextricably connected emotion and cognition are (2007). Emotions are the basic form of decision making, and the more advanced cognition becomes, the more emotionally skilled one needs to be. According to Immordino-Yang, & Damasio (2007),

One could argue that the goal of education is to cultivate children's building of repertoires of cognitive and behavioral strategies and options, helping them to recognize the complexity of situations and to respond in increasingly flexible, sophisticated, and creative ways. In our view, out of these processes of recognizing and responding, the very processes that form the interface between cognition and emotion, emerge the origins of creativity—the artistic, scientific, and technological innovations that are unique to our species. Further, out of these same kinds of processing emerges a special kind of human innovation: the social creativity that we call morality and ethical thought (p. 7).

It is clear, positive emotions do more than just create a sense of hedonic happiness. A literature review of 225 well-being studies (Lyubomirsky, King, & Diener, 2005) indicated that happiness precedes and predicts these life outcomes rather than being a result of them. So joy and happiness are not just hedonic states; they can help one to be more creative, move one to ethical action, and even assist one in doing better on a math test (Gardner, Csikszentmihalyi, & Damon, 2001; Immordino-Yang, & Damasio, 2007). And enhancing one's happiness is attainable, through specific practices that can be learned (Lyubomirsky, 2012; Fredrickson, 2013). Finally, most notable to the current study is that the practice of loving-kindness meditation has been demonstrated to increase happiness (Fredrickson et al., 2008).

### Broaden and Build Broaden-and-Build Model of Positive Emotions

One of the most influential researchers on the value of positive emotions is social and positive psychologist Barbara Fredrickson (1998; 2008). Fredrickson expanded on Isen's (1987; 2000) work, demonstrating that positive emotions expand people's attention and thinking, allowing them to build personal resources for the future. Fredrickson (1998; 2008) found that positive emotions were not only a factor in well-being, they were a requirement for the enhancement of well-being. The broaden-and-build theory (Fredrickson, 2001; Fredrickson et al., 2008) demonstrates how recurrent experiences of positive emotions have enduring beneficial consequences, which in turn build a number of personal resources, broadening one's thought-action response. These personal resources can then be used at a later time, long after the initial positive emotion was felt, leading to enhanced well-being. This theory was initially based on the hypothesis that experiencing positive emotions might have the opposite effect of experiencing negative emotions (Fredrickson, 1998). As previously noted the negative emotion of anxiety/fear can lead people to a fight or flight response; creating a distorted angry/fight response or a fearful/fleeing response (Garland, Fredrickson, King, Johnson, Meyer, & Penn, 2010). In contrast, positive emotions lead to a broadening of one's awareness and thinking, which in turn builds resources that enhance one's resilience and well-being (Fredrickson, 1998; 2001, & Fredrickson et al., 2008; Garland et al., 2010). For example, if children display the positive emotion of excitement in school, this excitement can fuel their curiosity, motivating them to explore and persist (Fredrickson, 2001). In contrast, negative emotions can immobilize students, thus negatively impacting social, emotional, and academic outcomes (Immordino-Yang & Damasio, 2007).

In the Frederickson et al. (2008) landmark study, positive emotions were induced through the use of loving-kindness meditation. Results indicated that the LKM practice increased a number of positive emotions (gratitude, compassion, love, joy, contentment, interest, amusement, hope, pride, and awe). The increases in positive emotions (broaden) were positively correlated to gains in mindfulness, self-acceptance, social connectedness, and good health. This represents the broaden part of the theory. These positive effects were all considered to be personal resources. These resources (the build part of the theory) led to reports of higher subjective well-being and lower reports of depression. So through the use of LKM, people's positive emotions increased, allowing them to be happier in the long term. Positive emotions were proven to be the mechanism for building the resources that enabled people to be happier (Frederickson et al., 2008). In addition to being happier, participants reported feeling more socially connected and demonstrated more creative thinking and flexible mindsets (Fredrickson, et al., 2008). The Fredrickson et al. (2008) study is important to the current research study as it further illustrates how important positive emotions are to students and also reveals LKM to be an effective intervention for generating positive emotions.

### Meditation

The research on meditation has grown in the past thirty years in Western culture, with studies showing meditation can improve cognitive capacities, mental health outcomes, and increase gray matter in the brain (Black, 2015). There are hundreds of meditative practices described in the literature, with no consensus on an operational definition (Eberth & Sedlmeir, 2012). Most conceptualizations of meditation describe it as a set of practices aimed at increasing awareness, concentration, equanimity, and well-being. Lutz and colleagues (2008) developed a



theoretical framework of meditation, based on traditional meditation texts and modern neuroscientific concepts, to operationalize the different types of meditation described in the literature. They categorize meditation into two broad categories: focused attention (FA) meditation and open monitoring (OM) meditation. FA meditation, also referred in the literature as a concentrative meditation, involves focusing one's attention on a particular object, words, mantra, or the breath. In contrast, in open monitoring practices attention is deliberately kept open to notice anything that enters one's field of awareness (Walsh & Shapiro, 2006). The goal is to become fully aware, noticing whatever arises, while refraining from being judgmental or getting lost in thought. The following elements are involved with OM: there is a labeling of experience or metacognitive monitoring (i.e. my mind just wandered), and there is nonreactive awareness of automatic thoughts and sensations (Walsh & Shapiro, 2006). Although Lutz et al. (2008) differentiates between these two styles (OM and FA), the two styles of meditation can—and often do—overlap. For instance, the breath is usually used as an anchor in mindfulness meditation. Therefore, concentrating and focusing on the breath can be considered both a concentrative (FA) and OM meditation practice.

A third type of meditation is called guided meditation (Kristeller & Johnson, 2005). In this type of meditation, the content of the meditation is most important and is deeply attended to. Similar to a concentrative meditation, there is a chant or repeated phrase, but the goal is to attend to the words in a deep way. Loving-kindness meditation is one type of guided meditation where the goal is to develop feelings of kindness and warmth towards oneself and towards others (Salzberg, 2005). Although the majority of meditation practices emphasize one particular type of meditation—concentrative/FA, mindful/OA, or guided—nearly all meditative practices

involve multiple approaches. For instance, a focus on the breath is customary at the start of many meditation practices.

A meta-analysis on the impact of meditation indicates that meditation has a substantially beneficial impact on a number of psychological and cognitive variables (Sedlmeier et.al, 2012). Specifically, meditation improves the monitoring of one's body state, emotional regulation, attention, learning, memory, self-awareness, introspection, and executive functioning (Sedlmeier et al., 2012). Although different meditation approaches had varied goals and focus, the overall positive effects did not differ much between the meditation styles, with most findings indicating all types of meditation can produce meaningful results (Sedlmeier et.al, 2012, p. 25). Finally, although all types of meditation show promise, mindfulness meditation remains the most popular and meditation is considered the premier path to cultivating mindfulness (Black, 2015; Shapiro et al., 2009).

### Mindfulness

There are numerous conceptualizations of mindfulness, with historical backgrounds strongly influencing the operational definitions. Mindfulness is both an outcome and a practice (Bluth & Banton, 2014). When describing mindfulness as an outcome, mindfulness is a state or trait in which an individual becomes more aware in the moment (Bluth & Banton, 2014). In contrast, mindfulness practices refer to the numerous techniques (i.e. yoga and meditation) that can be done to cultivate mindfulness (Bluth & Banton, 2014). Jon Kabat- Zinn (1994) defined mindfulness as an ability to increasingly bring one's attention to the present moment, with an attitude of openness, compassion, and nonjudgment. This definition has its roots in Buddhist traditions, where meditation practice is essential to mindfulness (Gunaratana, 2014). Brown and

Ryan's (2003) conceptualization of mindfulness is also rooted in the spiritual practice of meditation, and they describe mindfulness as being attentive to the present. Not all definitions of mindfulness, however, are influenced by spiritual practices. As an example, Ellen Langer's (1997) mindfulness conceptualization is based on social-cognition principles. Langer (1997) defined mindfulness as the ability to see multiple perspectives, to see things freshly, to focus on the contextual aspects of information, and to develop new categories for processing and understanding information.

For the purpose of the present study, Kabat-Zinn (2005) and Brown and Ryan's (2003) conceptualizations of mindfulness were used. Both these definitions stem from Buddhist tradition, where openness, acceptance, and kindness are equally important to awareness and attention. Given the fact that Kabat-Zinn's (1994; 2005) Mindfulness-Based Stress Reduction (MBSR) program is the most empirically evaluated mindfulness intervention program in the world (Bluth & Banton, 2014), and loving-kindness meditation (this study's intervention) is a component of MBSR, a description of MBSR is warranted.

### Mindfulness-Based Stress Reduction

Founded in 1979, MBSR was initially developed to treat chronically ill medical patients as a means of reducing stress (Kabat-Zinn, 2005). The program was considered revolutionary, as patients who were previously unresponsive to treatment became more non-reactive to stressors and pain, greatly improving the quality of their lives (Bishop et al., 2004). According to The Center for Mindfulness, where MBSR originated and is still taught, MBSR has its roots in science, medicine, psychology, and Buddhist meditation traditions. The goal of MBSR is to teach mindfulness, and mindfulness is at the core of Buddhist teachings

<http://www.umassmed.edu/cfm/>). Although rooted in Buddhist and other spiritual traditions, MBSR has always been taught in a secular fashion (Bishop et al., 2004).

The typical MBSR program consists of a three hour, once per week, 8 week long program that follows an experiential sequence of meditation practices. The primary program goal is to teach one to live more mindfully by noticing habitual thought patterns and developing the ability to evaluate and choose new ways of thinking and responding (Kabat-Zinn, 2003). Mindfulness is taught through a number of formal contemplative practices, including meditation and yoga. In addition to mindfulness, the cultivation of kindness and compassion is included through a formal Loving-Kindness meditation practice. These contemplative practices are done to develop the habit of being mindful in all aspects of life, such as eating, driving and listening. Participants are instructed to practice a daily formal meditation and they are given instructions on how to be more mindful in all of life's tasks. The program culminates with a day-long silent meditation retreat (Kabat-Zinn, 1994).

The MBSR program pioneered secular mindfulness research in the early 80's (Bishop et al., 2004; Kabat-Zinn, 1994). For over thirty-five years, MBSR has been refined and tested in a variety of settings, demonstrating numerous positive outcomes (Bishop et al., 2004).

Mindfulness has the ability to reduce chronic pain, improve overall immune function, and mitigate symptoms of anxiety and depression (Black, 2015). More recently, neuroscientific studies demonstrated mindfulness training can lead to brain plasticity (Davidson et al., 2012). Positive changes have been demonstrated in the areas of the brain associated with well-being, self-regulation, emotional regulation, affective empathy, perspective taking, memory processing, and negative emotional arousal (Davidson et al., 2012;Lutz et al., 2008). Although self-reported studies have supported many of the behavioral changes associated with recent findings, the

neuroscientific research has added greatly to validating the efficacy of MBSR, as brain imaging techniques support what people have been claiming for decades (Lutz et al., 2008). Finally, while MBSR was initially used in adult clinical populations, it is widely used today with clinical and nonclinical populations, in a variety of settings, and most recently with children and youth in K-12 education (Black; 2015; Grossman et al., 2004).

### Mindfulness in Education

Although relatively sparse, the research on the use of mindfulness interventions in children and adolescents has indicated positive developmental outcomes in school settings (Frank, Jennings, & Greenberg, 2013; Roeser & Zelazo, 2012). The first research review of mindfulness training in children—in both school and non-school settings—was done in 2009 and documented ten intervention studies. However, a more recent review (Black, 2015) documented 41 studies, indicating the emerging nature of this field. The majority of school-based studies used MBSR, or adapted versions of MBSR, for the study intervention (Black, 2015). To date, mindfulness has been demonstrated to positively affect numerous cognitive and psychological processes necessary for school success (Flook et al., 2010; Napoli et al., 2005).

Mindfulness practices have been shown to improve a number of capacities related to executive functioning, including self-regulation skills, attention, cognitive flexibility, and working memory (Beauchemin et al., 2008). More recently, there is evidence that mindfulness practices can enhance a number of capacities related to social skills (Meikeljohn et al., 2012). In addition, several of the mindfulness studies in educational settings examined mindfulness interventions with clinical populations of students, including those with learning disabilities (Semple et al., 2010), attention-deficit hyperactivity disorder (Zylowska et al., 2008), anxiety

and depression (Biegel et al., 2009). These studies indicated improvements in subjective happiness, social skills, academic performance, focused attention, and a reduction in mental distress, problem behaviors, anxiety and depressive symptoms (Black, 2015).

In one study, Schonert-Reichl & Lawlor (2010) found students who participated in the Mindfulness Education program (ME—now known as MindUp) demonstrated statistically significant self-reported improvements in attention, concentration, and optimism when compared to controls. In addition, teachers reported decreases in aggression and oppositional behavior. MindUP is a theoretically derived, teacher-taught universal preventive intervention that focuses on facilitating the development of social and emotional competence and positive emotions and has as its cornerstone daily lessons in which students engage in mindful attention training (Schonert-Reichl & Lawlor, 2010). A waitlist control design was used in this study. 246 participants (fourth to seventh grade students) and their teachers rated dimensions of student's social and emotional competence. Results revealed that treatment participants showed significant increases in optimism from pretest to posttest. Similarly, teachers reported more favorable responses on SEL dimensions from the treatment participants. Self-concept improvements were also indicated in the preadolescent participants. The study linked mindfulness as the theoretical foundation responsible for the social and emotional gains.

This program, like many others, is based on principles of MBSR (Huppert & Johnson, 2010). MBSR-based programs include .b (Kuyken et al., 2013), Mindful Schools (Biegel & Brown, 2010), Learning to BREATHE (Broderick & Metz, 2009), and Inner Kids (Flook et al., 2010). In addition, ME/MindUp also utilizes MBSR concepts; however, it also provides explicit instruction on brain functioning (Schonert-Reichl & Lawlor, 2010). Although there is growing empirical support for school-based mindfulness programs and interventions, the number of

school-based mindfulness studies is still limited, and the majority of the investigations have focused on cognitive abilities rather than affective states (Black, 2015). Finally, although MBSR includes the practice of loving-kindness meditation, the current researcher was unable to find any literature specifically on the practice of LKM with children, nor the discussion of LKM in any of the school-based mindfulness programs.

### Loving-Kindness Meditation

For the past two decades, the bulk of meditation practices in the research literature have focused on mindfulness-based interventions (Shonin, VanGordon, Compare, Zangeneh, & Griffiths, 2015). However, recently there has been growing interest in loving-kindness meditation (LKM) and other compassion-based meditations (Shonin et al., 2015; Heineberg, 2016). According to Buddhist tradition, loving-kindness is one of the four attitudes necessary in life. Equanimity, compassion, and sympathetic joy are the other three. In its pure form compassion is the desire to alleviate another's suffering, while loving-kindness is the desire for others to be happy and free from suffering (Salzberg, 2004). Although compassion and loving-kindness are distinct, some believe that loving-kindness is a path to compassion, as loving-kindness helps one see the connection between all beings. According to Sharon Salzberg (2004; 2005) metta (or loving-kindness), is not just the path to compassion, it is the foundation for all attitudes one should aspire to have.

However, Kabat-Zinn (2003; 2005) holds that equanimity (achieved through mindfulness practice) is foundational for loving-kindness. According to both Buddhist (Salzberg, 2004) and Western (Hoffman, 2011) conceptualizations of LKM, a primary goal of LKM is to develop an appreciation for one's connection to others. By cultivating a desire for all beings to be happy,

healthy, safe, and free from suffering, the practice helps people overcome a sense of separateness and brings about connection to others (Ekman, 2008; Salzberg, 1995). And while one must be mindful while practicing LKM, the primary goal of the practice is not mindfulness, but instead it is to specifically cultivate positive emotion (Salzberg, 1995). However, LKM is sometimes described as a mindfulness-based meditation with a focus on care and connection to others (Leppma, 2012). The focus of positive thoughts and feelings of self-compassion and compassion for others is what distinguishes LKM from other mindful practices (Fredrickson, 2009). Perhaps most salient, LKM fosters spiritual wisdom and benefits all beings (Salzberg, 2011).

The LKM practice begins with first directing love, kindness, and compassion toward oneself. This is the foundation of the practice. Next, the practice is expanded to include loved ones, specifically people the meditator feels gratitude towards. It is next expanded to include people for whom the meditator has neutral feelings (i.e. someone the meditator may come in contact with regularly, but does not know personally). From there it is expanded to include people with whom the meditator has difficulty with, and it culminates with directing these wishes to all beings everywhere (Fredrickson, 2009; Salzberg, 2004). The following are the typical phrases that are repeated, replacing the “I” each time with the intended person:

May I be safe.  
May I be happy.  
May I be healthy.  
May I be free from suffering.  
May I be peaceful and at ease.

To date, research on LKM has demonstrated a range of benefits including improved well-being, increased positive emotions, increased empathy, and increased sense of connection to others (Galante et al.; 2014; Hoffman, 2011). In the past five years, four systematic reviews were done on LKM, further supporting the use of LKM as a well-being intervention. In the first



review, Hoffman (2011) examined LKM from a neurobiological perspective, distinguishing the different meditative techniques used in research and situating LKM as a compassion-based meditation. Next, Galante et al. (2014) provided a systematic review and meta-analysis on LKM's effects on health and well-being in adults. Twenty-two randomized control studies were reviewed, indicating moderate to good results on a number of self-reported well-being indicators (positive emotions, self-compassion, depressive symptoms). In 2015, Shonin et al. (2015) provided a systematic review of LKM and other compassion-based meditation studies which discussed 8 LKM studies, including two studies with college student populations. And most recently, Zeng, Chiu, Wang, Oei, and Leung (2015) conducted a meta-analytic review on LKM and positive emotions that reported medium effect sizes on daily positive emotions and a range from small to large effect sizes for the ongoing practice of LKM. These findings are consistent with studies demonstrating the amount of time spent meditating to be a mediating factor (Cohn et al. (2008), and other studies demonstrating LKM's positive effects can be seen after only a brief intervention (Hutcherson, et al 2008; 2014). Although the mediating effects of time are disputable, the overall results are unambiguous; LKM produced positive results on a variety of outcomes (Galante et al.; 2014; Hoffman, 2011). Table one highlights the LKM studies that are directly related to the current dissertation in practice study.

Table 1: LKM Studies Related to Current Study

Study	Subjects	Intervention	Findings
Carson et. al ( 2005)	Adults with low back pain	90 min/1 week 8 weeks 30 min daily home	Significant reductions in pain and distress, decreases in anger
Cohn et al. (2008)	Healthy adults	Daily, results correlated dosage (minutes per day)	Increased positive emotions, 15 months post intervention
Fredrickson et al. (2008)	healthy adults interested in stress reduction	60 min/1 week 7weeks Home practice	Significant increases in positive emotions. Positive emotions were associated with increased resources, leading to overall increased well-being.
Hutcherson, Seppala, & Gross (2008)	Healthy Adults N=93	Single dose, less than 10 minute practice	Increased social connection increased positivity towards strangers
Hutcherson, Seppala, & Gross ( 2014)	University Students	Three 2.25 minute guided LKM	Increased empathy, increased positive emotions, increased emotional processing, increased social connection
Kang, Gray, & Dovidio (2014)	Healthy adults N=101	30 min/ once week 6 weeks Daily guided home practice	Decreased implicit bias against minorities
Klimecki, Leiberg, Lamm, & Singer (2013)	Healthy adults N=58 Stress reduction	8 hours empathy training 8 hours LKM practice	Increased empathy increased positive affect increased physiological markers of well-being
Kok et al. (2013)	Healthy adults Stress Reduction	60 min/weekly 6 weeks	Increased positive emotions, increased social connection, increased physiological markers of well-being
Leiberg, Klimecki, Singer (2011)	Healthy adults	One day/6 hour LKM training	Increased prosocial behavior
Lutz et al. (2008)	16 healthy adults with no meditation experience and 16 expert Buddhist meditators	Brain activity measured while meditating	Increased gray matter in brain in areas associated with emotional regulation and empathy
Shahar et al. (2014)	Adults/ high in self-criticism N=374	90 minutes/ once a week seven weeks	Reduced self-criticism, increased positive emotions increased self-compassion

As previously noted, Frederickson's et al. (2008) landmark study found that after 7 weeks of practicing loving-kindness, a host of positive emotions increased. Participants reported significant increased feelings of joy, love, contentment, gratitude, pride, hope, interest, amusement, and awe. The study used LKM to generate positive emotions, with the hypotheses that participants' increased experiences of positive emotions would increase personal resources, to positively affect their mental health and well-being. Employees in a large software company were recruited to participate in a stress reduction program. A waitlist control design was used, and 102 participants received the treatment. The intervention consisted of six 60-minute sessions over a 7-week period. Participants received an LKM CD and were encouraged to practice at home and record the amount of time spent meditating. In week one, the focus was on themselves, with the following weeks focused on others in the LKM practice (a benefactor, a friend, a neutral person, a difficult person, and all beings everywhere). During each session, 20 minutes were spent practicing LKM, 20 minutes were dedicated to discussion, and 20 minutes were spent presenting on how LKM could be incorporated into their lives. This study (Frederickson et al., 2008) confirmed that increasing positive emotions had lasting effects. LKM produced positive emotions, leading to increased resources (i.e. increased mindfulness, a sense of purpose).

The researchers conducted a follow-up study (Cohn & Fredrickson, 2010) where they followed 95 of the original study participants to determine the long-term efficacy of the LKM intervention. One-third of the participants reported meditating at least occasionally. Analyses revealed that those who continued with the LKM practice reported more positive emotions and all participants maintained the increases in life satisfaction that had been initially gained in 2008. This study showed that LKM produced long term gains in both experiences of positive emotions

and in reports of higher life satisfaction, which suggests that a compassion-based meditation practice which focuses primarily on others can produce long lasting well-being benefits.

In another study, Hutcherson, Seppala, and Gross(2008) demonstrated that just a few minutes of LKM produced in participants a sense of social connection towards strangers and created changes in automatic/implicit responses. This study was the first of its kind to use LKM as a means of increasing positive automatic responses. The researchers hypothesized that a brief LKM intervention (a seven minute practice) would create positive changes in mood, and implicit and explicit changes in evaluations of the self and others. 93 participants (having little or no previous meditation practice) were involved in the study, which used a pre-post design to assess the hypotheses and employed an affective priming task to assess the implicit evaluative responses. For both implicit and explicit evaluative responses, participants evaluated photos of themselves, neutral others, and a target. Results indicated that LKM produced positive effects in all areas. Some changes in implicit positivity were also observed toward the self, a finding consistent with one of the goals of LKM. The authors (Hutcherson et al., 2008) discussed the importance of these findings, as it is the automatic and implicit reactions that are most resistant to change.

Another seminal study in LKM research was done by Lutz et al. (2008). This neuroscientific study was the first to use functional magnetic resonance imaging to show that positive emotions can be learned. Equally important, the practice of LKM was demonstrated to be effective at increasing positive emotions. Scans revealed significant changes in subjects who had long term LKM meditation practices. Additionally, controls in the study were taught the LKM practice, and findings revealed significant changes in brain areas associated with positive emotions and empathy. This study supported an ongoing investigation concerned with

demonstrating how people can develop the ability to regulate thoughts and emotions and can learn to be more compassionate. The Lutz et al. (2008) study suggested that LKM can help alleviate depression, decrease aggression in kids prone to bullying, and provide an overall boost to one's well-being—by feeling empathy towards others. Davidson (2003; et al., 2012), a prominent neuroscientist and pioneer in meditation and mindfulness research, proposed that when one is taught to think about others it puts all of life into perspective. When children are taught compassion and emotional regulation through meditative practices, brain plasticity allows for the enhancement of these qualities (in Land, 2008).

### Summary

This review provided literature to support the rationale for a school-based LKM intervention as a means of positively affecting positive emotions, empathy, social connectedness, and problem behaviors in second and third-grade students. These constructs have been demonstrated to be essential and malleable facets of well-being. The SEL framework theoretically grounded the importance of student well-being, while the mindfulness and contemplative education literature demonstrated how meditation practices are ideal for encouraging lifelong success. Finally, LKM was demonstrated to be a potential intervention to positively affect emotions, empathy, social connectedness, and reduce problem behaviors in second and third-grade students.

## **CHAPTER THREE: RESEARCH METHODS**

### Introduction

The aim of this study was to investigate the effects of a loving-kindness meditation (LKM) intervention on positive emotions, social connection, and problem behaviors in second and third-grade students, based on prior research demonstrating that LKM positively affects these variables. These variables have been demonstrated to be important factors in student well-being, and enhancing student well-being has become a national imperative. This chapter discusses the study's methods, including the research hypotheses, a description of the research methodology, and the statistical data analyses methods used.

### Research Design

This study used a quantitative randomized active comparison pre-post group trial design. This design was selected for its ability to explore causal relationships and its ability to reduce threats to internal validity (Campbell & Stanley, 1963). Since measuring the effects of LKM was the goal, the trial design is a preferred method. Random assignment is also preferred in experimental designs, and since it was feasible, randomization was used. Threats to internal validity were addressed in a few ways. For one, threats are reduced when a treatment group is compared to a non-treatment group. Second, since internal validity threats remain when a control group—a group that receives no treatment—is used (Britton et al., 2012), an active comparison group was used. Since participants in control groups don't experience a new activity, the treatment group effects are not always clear, as novelty can be a factor (Britton, et al. 2012). With this in mind, active comparison groups are recommended, where both groups receive a treatment, thereby addressing the novelty issue present in control designs. The present

study attempted to control for this internal validity issue by having the comparison group engage in an enjoyable novel activity. Specifically, the comparison group read interesting and thought provoking character development African folktales with rich discussion (see Appendix A). With both intervention groups experiencing maturation and repeated testing, threats to internal validity were addressed again, as the treatment effects that occur with this design are less likely to be attributed to time, and more likely to be attributed to the intervention (Campbell & Stanley, 1963). Finally, the pre-post design feature of this study further reduced internal validity threats, as this design allowed for comparisons of each group prior to the intervention and after the intervention was complete (Campbell & Stanley, 1963).

In addition to the quantitative design, select qualitative information was also collected to provide a deeper understanding of the participants' and teachers' experiences. Student comments were recorded throughout the intervention, and a teacher focus group was conducted post intervention. Although not necessarily generalizable, this qualitative information provides useful situational data, important for understanding the context in which this study took place (Campbell & Stanley, 1963).

### Research Hypotheses

A short five week loving-kindness-meditation intervention will positively affect positive emotions, empathy, social connectedness, and problem behaviors in second and third-grade students. The aforementioned factors are all related to well-being. Specifically:

1. The LKM intervention will increase positive emotions in students, as measured by the self-reported Positive Affect and Negative Affect Scale (PANAS) (Watson, Clark, & Tellegen, 1998).
2. The LKM intervention will increase empathy in students, as measured by the self-reported Bryant Empathy Scale (Bryant, 1982).

3. The LKM intervention will increase social connectedness in students, as measured by a self-reported response to a question based on the Social Connectedness and Social Assurance Scale (Lee & Robbins, 1995).
4. The LKM intervention will reduce problem behaviors in students, as measured by the Child-Behavior Checklist, Teacher Rated Form (Achenbach & Rescorla, 2000).

### Research Setting

A public charter school in central Florida was selected as the research site for this study. This site was selected as it is one of the university partnership schools, and the school principal agreed to have the study conducted at the school. Criteria for site selection included (a) principal and teacher acceptance of the research procedures, (b) having an employee at the site agree to facilitate the active comparison group, and (c) having at least two grade levels of teachers willing to participate in the study, to increase the potential sample size. The study took place during a regularly scheduled reading block of time to allow for minimal disruption to participating students, non-participating students, and teachers.

### Study Participants

Second and third-grade students were selected for the study, as the school principal suggested these grades based on their reading block schedule. All second and third-grade teachers agreed to participate, and all of their students were invited to participate. Out of 99 students, 54 parents and children consented to participating in the study. The groups were divided by grade level to insure no more than 15 subjects per group, creating two experimental groups and two comparison groups. Students were randomly assigned, by grade, into the experimental groups and comparison groups. Participating students included 54 children (25 second graders and 29 third-graders). Initially, 13 second graders formed the second grade



treatment group and 12 second graders formed the second grade comparison group. 15 third-graders formed the experimental group and 14 third-graders formed the comparison group.

Participants were excluded from analyses for the following reasons: (a) they were assigned to the treatment group but attended fewer than 4 sessions (n=1), (b) teacher did not fill out a post-test measure (n=1), and (c) missing data on the pre-or post-test measures (n=18). Participant attrition and disqualification affected the groups equally, with the final sample including 34 participants; 18 in the LKM treatment group and 16 in the active comparison group.

Table 2: Descriptive Statistics

Group	Total	Second-Grade	Third-Grade
Treatment	18	8	10
Comparison	16	8	8

Note. This is total number after some students were removed due to incomplete instrument data or not attending at least four sessions.

### Procedures

Institutional Review Board (IRB) approval was obtained from both the University of Central Florida (Appendix A) and the investigational site (an elementary school). Informed parent consent and child assent procedures were followed in compliance with both IRB standards. The IRB approved parent consent and permission forms were sent home by individual teachers to every second and third-grade student (Appendix B). Students who returned signed permission forms were provided the opportunity to provide verbal assent by the researcher. 54% of parents consented to their children's participation and 100% of these children initially assented. Prior to week two, one student decided to drop out of the study. This student asked to return on the last day of the intervention, and she was welcomed, but this data is

not included in the results. Additionally, one child left the school after the intervention, but prior to teacher-rated post-testing, so this data is also not included. In addition, 18 participants either selected multiple answers or did not answer questions on the instruments, so this data too was also excluded from the analysis. This brings the final number of student participants to 34.

### Experimental Intervention

LKM was chosen as the intervention because the goal of this intervention was to evoke positive emotions, increase empathy and social connection, and reduce problem behaviors in students. LKM is a meditation practice demonstrated to increase positive feelings of care and kindness towards oneself and others (Salzberg, 2004). The LKM curriculum was developed by this study's researcher. The curriculum was based on Fredrickson's et al (2008) LKM protocol for adults, with developmentally appropriate modifications. Fredrickson's (2008) protocol originally consisted of six weekly 60-minute sessions; this was modified to 30 minute sessions and a five week format to accommodate the elementary school's schedule. In addition, the empirically validated ME school-based mindfulness program (discussed in chapter two) was reviewed to assist with designing a developmentally appropriate program, as developmental considerations are important (Schonert-Reichl & Lawlor, 2010). With this in mind, additional experiential components were added to the contemplative practice. Permission was obtained from the author, Charity Khan, to include a loving-kindness song and dance in the protocol. (See Appendix C for website and lyrics). The investigator developed a program (see Appendix D) specifically for this research study intervention, which included weekly facilitator scripts, participant handouts, session outlines, and the amount of time allotted for each component of the session. In addition to reviewing the ME program (Schonert-Reichl & Lawlor, 2010), the

protocol from a previous LKM intervention study was consulted (Leppma, 2011) providing assistance in the manual organization and design. The meditation scripts came from Salzberg (2004), and the researcher referred to the MindUp program to ensure language was developmentally appropriate. The investigator chose to base the LKM scripts on Salzberg's script (2004) as the LKM portions of MBSR and child modified MBSR are consistent with Salzberg, and Frederickson (et. al., 2008) also used an adaptation of Salzberg's script. The LKM script was as follows:

May I be safe.  
May I be happy.  
May I be free from suffering.  
May I be safe.  
May I be at peace. (Salzberg, 2004)

Throughout the intervention, participants were encouraged to be mindful in their everyday experiences and to share the practice of loving-kindness with their family and friends. This is also consistent with MBSR (1978) and Fredrickson's (et al., 2008) study. Table 3 provides an overview of the objectives for each of the sessions.

Table 3: Experimental Intervention Objectives

Session	Objectives
LKM/Session One	<ol style="list-style-type: none"> <li>1. Introduce ritual of sounding a bell to start and end sessions</li> <li>2. Discuss purpose of study</li> <li>3. Introduce concepts of mindfulness &amp; loving-kindness meditation (LKM)</li> <li>4. Begin practice of LKM</li> <li>5. Discussion/Process</li> <li>6. Introduce a Loving-Kindness song and dance.</li> <li>7. End with bell ritual</li> </ol>
Sessions Two through Six	<ol style="list-style-type: none"> <li>1. Continue practice of bell/mindfulness ritual</li> <li>2. Discuss any home LKM practice since previous week</li> <li>3. Practice Breathe Exercise, provide reminders about mindful constructs</li> <li>4. Practice LKM: <ul style="list-style-type: none"> <li>• Week Two Focus: Benefactor</li> <li>• Week Three Focus: Friend</li> <li>• Week Four Focus: Neutral Person</li> <li>• Week Five: Difficult Person</li> <li>• Week Six: All Beings Everywhere</li> </ul> </li> <li>5. Discussion/Process</li> <li>6. Loving-Kindness song/dance</li> <li>7. End with sound of bell- three times</li> </ol>

Weeks three and four were combined to accommodate research site’s schedule/request.

Active Comparison Group Intervention

The active comparison groups read African folktales with guided discussions (see Appendix D). These folktales were selected as students were not familiar with the stories and the themes are related to character and moral development issues. The novelty of the activity and the engaging storylines made reading them an excellent activity for the comparison groups, as the need for novel and fun activities is important in randomized trial designs in school settings

(Britton, et al., 2012). The active comparison groups were facilitated by a well-liked instructional coach at the school, increasing the students' excitement for participating in the group.

### Data Collection

After obtaining approval from the Institutional Review Boards (IRB), the researcher met with the administration and second and third-grade teachers. During this meeting the investigator explained the purpose of the study and the required procedures for the intervention and data collection. It was determined that teachers would administer the participant pre-test and post-test measures, instead of the researcher as initially planned, to better accommodate student and teacher schedules. The parent informed consent forms were disseminated to the teachers, and teachers sent these forms, including study information, home with their students. At a second meeting with the teachers, the signed informed consent forms were collected, and the four pre-intervention instruments were disseminated. The measures included one teacher-reported student behavior checklist and three student self-reported measures. Administration procedures for the participant self-reported measures were discussed. Teachers agreed to follow procedures and administer the participant measures in their classrooms within a three week period prior to the intervention's start date. The teachers also agreed to complete the teacher-reported measure during this three week period, prior to the intervention start date.

The researcher randomized the groups by grade, using a computer generated randomizer, prior to collecting any data. The completed pre-test instruments were returned to the researcher, prior to the start date, and they were maintained in a locked file cabinet. After the intervention was completed, post measures were disseminated to the teachers, and the teachers were reminded

by email of the administration procedures. Four of the teachers and their students completed the post-test measures within three weeks of the intervention completion date; one teacher returned the post-test measures six weeks post intervention.

### Confidentiality

All forms were coded with no identifying participant information. The researcher organized all data in a spread sheet and began entering data after the intervention ended. Post intervention, the data, without any identifying information, was entered into the SPSS data base.

### Instrumentation

This study utilized one teacher reported instrument and three participant self-reported instruments. These instruments were administered pre-intervention, within three weeks of the intervention start date, and again within three weeks of the intervention completion date. The researcher met with the teachers to discuss the instruments and protocol.

### Instruments Addressing Research Questions

1. *Will the loving-kindness meditation have a positive effect on positive emotions in second and third-grade students?*

A modified version of the shortened self-reported Positive and Negative Affective Scale for Children (PANAS-C) was used to measure emotions in children (see Appendix E). The original PANAS-C includes 20 items, 10 indicating positive affect and 10 indicating negative affect. The PANAS- C has demonstrated high internal consistency, convergent validity, and discriminant validity (Watson et al., 1988), and it is one of the most widely used measures of emotions in research. For more efficient assessment, particularly in school-based settings, a

shortened 10-item measure was developed (Ebesutani, Regan, Sotj, Reise, Higa-McMillan, & Chorpita, 2012). Not only did the shortened version reduce the amount of time needed, it also removed some of the items with less than ideal psychometric properties (Ebesutani et al. 2011). The shortened 10-item PANAS-C produced acceptable internal consistency, ranging from .89 to .92, while taking half the time to complete—a very important consideration for school-based research (Ebesutani et al. 2011).

Since the brief version of the PANAS-C has been shown to be an equally valid measure (Ebesutani et al. 2011) it was used in the present study to reduce the amount of administration time. The researcher, and the researcher's committee, also believed the short version might be more appropriate for this study as some of the vocabulary on the long version may not be familiar to second and third-grade students (i.e. jittery). Since some of the emotions on the short version were considered possibly unclear to all participants, facial expressions representing the emotions were added. These pictures were gleaned from the University of California, Berkeley's Greater Good emotional intelligence/facial expressions quiz [http://greatergood.berkeley.edu/ei\\_quiz/](http://greatergood.berkeley.edu/ei_quiz/). In addition, emojis were added to the emotions/facial expressions, as emojis were considered familiar to second and third-grade students, potentially helping them clarify some of the emotional states (i.e. happiness and joy) and adding interest. Respondents were asked to rate the extent to which they had experienced a particular emotion, within the past two weeks, on a 5-point Likert scale ranging from 1 (very slightly or not at all) to 5 (extremely). Positive Affect (PA) and Negative Affect (NA) scores are obtained by summing the ratings given to each of the five corresponding items. Therefore, the minimum possible PA (or NA) score is 5, and the maximum possible PA (or NA) score is 25, with a higher score indicating greater positive (or negative) affect.

2. *Will loving-kindness meditation have a positive effect on second and third-grade students' levels of empathy?*

Empathy was measured using the self-reported Index of Empathy for Children and Adolescents (IECA) (Bryant, 1982). The IECA was developed and validated to measure affective empathy in children six years and (Weid, et al., 2007). The scale contains 22 items that include empathy, sympathy, and/or distress related emotions. (Bryant, 1982; Appendix F). Although it has been noted (Eisenberg, 2000) that sympathy (i.e. "It makes me sad to see a girl who can't find anyone to play with.") and personal distress (i.e. "I get upset when I see an animal being hurt.") differ, both stem from empathy, and assessments of empathy often include both sympathy and distress related responses (Bryant, 1982). The measure has been shown to have moderate internal consistency for third-graders (.52), fourth graders (.62), and sixth graders (.66) (Bryant, 1982). Further analysis of the measure (Del Barrio, Aluja, & Garcia, 2004 & Weid, et al. 2007) indicates the IECA is a multidimensional measure of empathy, with subscales of both cognitive and affective empathy. Despite the measures inclusion of cognitive empathy items, the majority of items are deemed essential to measuring affective empathy (Wied, et al., 2007). To date, the Bryant Empathy Index (1982) is the only self-reported measure of affective empathy for use with young children. Furthermore, it has been used in many studies with both children and adolescents (Wied, et al., 2007), and CASTLE recommends its use. In this study the IECA was group administered by individual teachers to students who answered in a yes/no format, by circling the item number, if they agreed with the statement. Reverse scoring is done for some items. Higher scores are equated with higher levels of empathy, with a score of 22 being the highest possible score.

3. *Will loving-kindness meditation have a positive effect on second and third-grade students' level of social connectedness?*



A modified question from the Social Connectedness Scale was used to assess social connectedness in students (see Appendix F). The Social Connectedness Scale (Lee & Robbins, 1995) has been field tested, has an alpha reliability of .91, and is considered a valid and reliable measure of social connectedness. Teachers administered the question to the group along with the other instruments. Students circled a choice on a Likert scale, with responses ranging from Strongly Agree to Strongly Disagree (1 to 5). Higher scores reflect higher social connection.

4. *Will loving-kindness meditation have a positive effect on second and third-grade students' internalizing and externalizing behaviors?*

The Child Behavior Checklist (CBCL) - Teacher Report Form (TRF) was used to assess problem behaviors of study participants. The CBCL-TRF was developed by Thomas M. Achenbach (2004) and it is one of the most widely-used standardized measures for evaluating maladaptive behavioral and emotional problems in children aged 6 to 18. It has demonstrated a reliability score of .95 for the problem behavior scale, which is the scale used in the present study. The teacher-reported instrument includes 113 items that measure children's problem behaviors in two broad areas, internalizing problems vs externalizing problems. In addition, it further categorizes problem behaviors into the following categories: Aggressive Behavior, Delinquent Behavior, Withdrawn Behavior, Somatic Complaints, Anxious/Depressed, Attention Problems, Social Problems, and Thought Problems. At the request of the research site's Institutional Review Board, the CBCL-TRF was modified to reduce the time needed to fill out the measure. The open ended questions were deemed time consuming, so with author's permission, all of the open ended portions of questions were removed. Additional modifications were granted by the author to delete some of the detailed demographic questions. Only the

following student demographic information was included on the instrument: name, gender, age, ethnicity/race, birthdate, grade, and date form was completed.

### Data Analysis

Considering the pre-post design and multiple variables, a mixed design, two-factor multivariate of analysis (MANOVA) was used, with group and time as the factors. Treatment and comparison group and pre- and post-testing were the respective factor levels. MANOVAS are used to test whether mean difference in groups on multiple dependent variables have occurred by chance (Tabachnick & Fidell, 2007). In addition, univariate analysis of variance (ANOVA) tests were done for each of the dependent variables. Since the sample size was small, the statistical significance level was adjusted from the typical .05 to .10. Prior to analysis, the data were examined through SPSS programs for accuracy of data entry, missing values, fit between data set distributions, and the assumptions of multivariate analysis, including testing for normality across time (Tabachnick & Fidell, 2007). Since the present study sought to determine whether participants did better pretest to posttest and whether the treatment group improved more than the comparison group, a mixed (between and within subject) design was utilized. In addition, the four independent variables were also individually analyzed using univariate analysis of variance (ANOVA) tests. The findings will be discussed in chapter four.

## **CHAPTER FOUR: RESEARCH FINDINGS**

The results of the effect of a loving-kindness-meditation intervention on second and third-grade students' emotions, empathy, social connectedness, and problem behaviors are presented in this section. This chapter does the following: (1) it provides a demographic summary, (2) it discusses the results of the four research questions posed in this study, with statistical analysis of each question, and (3) it describes select qualitative information, namely participant, teacher, and facilitator perceptions of the program and the program effects.

### Demographics

Demographic information was generated from the teacher-reported CBCL-TRF (Achenbach & Rescorla, 2000). From the original 54 participants, 34 were included in the final sample. One student withdrew from the study, one moved before the teacher completed the post-test measure, and 18 students inadequately reported on the instruments. Reports were considered inadequate if there were missing items or multiple answers for individual items. Therefore, 20 participants were removed, and data from 34 students were included in the following findings.

### Results for Research Hypotheses

The goal of this study was to examine the effects of an LKM intervention on students' self-reported experiences of positive emotions, self-reported levels of empathy, self-reported feeling of social connectedness, and teacher-reported problem behaviors on second- and third-grade students. In the analysis mean differences, within group differences, and between group

differences on these four variables were examined. All statistical analyses were performed using IBM's SPSS (2013) package.

For the analyses, a two factor multivariate mixed analysis (MANOVA) was first used to test the effects of group membership on the four dependent variables (positive emotions, empathy, social connectedness, and problem behaviors). Time (pretest and posttest) and group membership (LKM and comparison) were the two factors used in the analyses. Since the sample size was so small ( $n=34$ ), the statistical significance level was reduced from the typical .05 to .10. Prior to analyses, data was cleaned, checked for accuracy, and checked for missing values. 18 cases with missing values were removed from the groups/data set. In addition, statistical assumptions of normality for MANOVA were checked. According to the Shapiro-Wilk's criterion, normality assumptions were met in all areas except for the problem behavior variable in the LKM group ( $p=.002$ ), the problem behavior variable in the comparison group ( $p=.009$ ), and the empathy variable in the comparison group ( $p=.001$ ). Even with these violations, the MANOVA was still used because there are no equivalent non-parametric tests for examining four dependent variables. Another reason for using the MANOVA is that this analysis can accommodate violations of normality with samples sizes larger than 30 (Pallant, 2007). Table 4 presents the means and standard deviations for the treatment and comparison group on each of the four measures pre and post intervention.

Table 4: Pretest and Posttest Means and Standard Deviations

Source	Group	Mean	SD
PRETEST			
PANAS	Treatment	18.33	6.16
	Comparison	20.90	3.8
BRYANT	Treatment	15.11	4.26
	Comparison	14.18	5.11
SOC CON	Treatment	3.44	1.54
	Comparison	3.69	1.01
CBCL-TRF	Treatment	11.44	11.79
	Comparison	13.81	17.13
POSTTEST			
PANAS	Treatment	20.05	4.49
	Comparison	20.56	4.99
BRYANT	Treatment	15.61	4.00
	Comparison	15.25	3.76
SOC CON	Treatment	3.72	1.40
	Comparison	3.69	1.44
CBCL-TRF	Treatment	7.44	7.96
	Comparison	9.69	10.45

PANAS=positive emotions. BRYANT=empathy. SOC CON=social connection. CBCL-TRF=problem behaviors

The MANOVA indicated no significant interaction effects based on group membership (LKM or comparison). Wilks Lambda = .702,  $F(1, 29) = .702, p > .10, partial \eta^2 = .070$ . There was no significant interaction between type of group (treatment or control) and time, Wilks Lambda = .722,  $F(1, 29) = .722, p > .10, partial \eta^2 = .067$ . However, main effect findings on the MANOVA indicated there was a significant difference in the pre- and post-test scores on at least one of the measures Wilks Lambda = .736,  $F(1,29) = .057, p > .10, partial \eta^2 = .057$ . Therefore, a mixed one way repeated measures analysis of variance (ANOVA) was performed on each of the dependent variables. Time (pretest and posttest) and between and within subjects were the factors. Even though the effectiveness of the LKM intervention was found to be non-

significant, main effect findings for students' self-reported positive emotions, empathy, social connection and teacher-reported problem behaviors were explored.

#### Research Question One Result

*Will the loving-kindness meditation have a positive effect on positive emotions in second and third-grade students?*

A one-way mixed (between-within) subjects analysis of variance (ANOVA) was conducted to examine the effectiveness of LKM on students' self-reported positive emotions, compared to a comparison group. Consistent with MANOVA findings, results of the ANOVA revealed no significant interaction between group membership and no significant main effect finding for time,  $F(1, 32) = 1.16, p > .05, \text{partial } \eta^2 = .011$ .

#### Research Question Two Results

*Will loving-kindness meditation have a positive effect on second and third-grade students' levels of empathy?*

A one-way mixed (between-within) subjects analysis of variance (ANOVA) was conducted to examine the effectiveness of LKM on students' levels of empathy, compared to a comparison group. As expected, the ANOVA findings revealed no significant interaction between group membership, and no significant main effect finding for time  $F(1, 32) = 2.098, p = .157, \text{partial } \eta^2 = .062$ .

### Research Question Three Results

*Will loving-kindness meditation have a positive effect on second and third-grade students' level of social connectedness?*

A one-way mixed (between-within) subjects analysis of variance (ANOVA) was conducted to examine the effectiveness of LKM on students' levels of empathy, compared to a comparison group. Again, results of the ANOVA revealed no significant interaction between group memberships, as well as no significant main effect for time,  $F(1, 32) = .339, p = .654$ ,  $partial \eta^2 = .10$

### Research Question Four Results

*Will loving-kindness meditation have a positive effect on second and third-graders problem behaviors?*

A one-way mixed (between-within) subjects analysis of variance (ANOVA) was conducted to examine the effectiveness of LKM on students' levels of teacher-reported problem behaviors, compared to a comparison group. Consistent with the MANOVA, the ANOVA revealed no significant interaction effects, based on group memberships. There was however a main effect finding for time, indicating that student behaviors were positively affected by both the treatment and comparison from pre- to post-testing,  $F(1, 32) = 5.51, p = .025, partial \eta^2 = .147$  on the problem behaviors variable.

Due to the small sample size, power analyses were done for the MANOVA and each of the ANOVA tests. Using the G\*Power analysis tool (Faull, Erdfelder, Lang, & Buchner, 2007),

post hoc power level testing was conducted on the MANVOVA. Findings revealed the MAVOVA power to be .133. Therefore, there was an 87% chance that a type two error occurred with the MANOVA. The following are the results of each of the ANOVA post hoc analysis for achieved power:

1. The positive emotions variable ANOVA analysis had a .76 power level, indicating a 24% chance that a type two error occurred.
2. The empathy variable ANOVA analysis had a .17 power level, indicating an 83% chance that a type two error occurred.
3. The social connectedness variable ANOVA analysis had a .20 power level, indicating an 80% chance that a type-two error occurred.
4. The problem behaviors variable ANOVA analysis had a power level of .069, indicating a 93% chance that a type-two error occurred.

### Teacher Perceptions of Program Effects

Although this study followed a quantitative design, some qualitative data were collected. Post intervention, and after all of the data was collected, a teacher focus group was held. As previously noted, teachers were blind to the experimental condition. The following summarizes the meeting:

*Question 1: Did you notice any changes in student behavior over the course of the intervention?* Three out of five teachers reported self-regulation to be an issue for many of their students. Although not quantitatively measured in this study, teachers reported an increase in student's self-regulation, post intervention.

*Question 2: In the past few weeks have you noticed any additional behavior changes?*

Four of the five teachers reported seeing positive changes in student behavior. Teachers reported



not knowing what group (treatment or comparison) their students were in. It is interesting to note that two specific students were described as exhibiting improvements in behavior, and both of these students were in the treatment group. One teacher commented about a particular student, “This student needs less time outs, she is getting along better with peers, and appears happier.”

*Question 3: Is there anything that could be changed that might have improved this intervention?* One third-grade teacher indicated the timing of the intervention was not ideal. She noted that the intervention took place on a Friday, and students were eager to finish weekly projects.

#### Facilitator Perceptions of Program Effects

The facilitator of the LKM intervention was also the researcher for this study. She has a personal meditation practice and she is in the process of becoming a certified MBSR facilitator. Informed by the literature and facilitator experience, the following are a few observations:

1. Teachers might be best to implement the intervention
2. More movement (i.e. yoga or walking meditations) might improve results
3. The meditation portion of the lesson may be more appropriate for third-graders
4. Children need more time to share stories, process feelings, work out relational issues

*(1) Teachers would be best to implement the intervention.* Although the facilitator has a degree in elementary education, she was never employed as an elementary school teacher. In addition, her limited experience as a teacher’s assistant was more than twenty-five years ago. The first two weeks of the intervention she left feeling inadequately prepared to deal with classroom management issues. The majority of students were eager, engaged, and appeared to enjoy the intervention. There were however, a few students in each of the two treatment groups that were disruptive and non-compliant. Despite these few students being the minority, the

disruptions (i.e. not listening, yelling, and running around) took time away from the lessons for all students. Week three, an employee of the elementary school sat in the room. Her presence positively influenced all of the students' behaviors. The facilitator learned some classroom management "tips," and the remaining sessions were much improved. It is this facilitator's impression that the few students who regularly acted out would not have acted the same with their regular teachers. The facilitator also questioned how much these disruptions effected the overall fidelity the intervention.

*(2) More movement (i.e. yoga or walking meditations) might improve results.* Charity Khan's loving-kindness song and dance was, by far, the most enjoyed and universally engaged activity in the all of sessions. All of the students were engaged—even if some students just actively listened and watched. The activity appeared to create a sense of joy and love in the room. Students reported "not being able to get that song out of their heads," and many walked in humming or singing it each week. This led the facilitator to wonder if contemplative practices with movement (i.e. yoga, tai chi, or walking meditations) would improve this intervention.

*(3) The meditation portion of the lesson may be more appropriate for third-graders.* The facilitator's perception was that statistically the third-graders were more engaged in the LKM practice. There appeared to be substantial developmental differences between the second and third-grade groups. Although there were a number of second-graders who appeared highly engaged with the LKM meditation component of the intervention, the third-graders—as a group—participated with less disruptions, and qualitatively reported more gains. Some of the students, mostly in the second-grade group, appeared to not be practicing the meditation. The difference in student behaviors led the investigator to believe that the meditation practice required a certain level of maturity and cognitive understanding. Some of third-grade students' comments depicted

the level of understanding they had. “I feel love in my heart growing every time we do this,” was a comment of one third-grade girl. This speaks to the student’s ability to understand the LKM practice intellectually, as well as an embodied cognitive experience. The goal of LKM is to generate positive feelings of love and kindness towards others (Salzberg, 2004), and this comment clearly conveyed the student’s ability to reach this goal. In addition, she viscerally described feeling love, as opposed to describing a loving thought. Active learning may have played a role in this student’s discovery.

Another male student said, “My mom doesn’t always understand (me), I taught her how to do this meditation—she needs to meditate.” This student appeared to have understood how LKM can assist with empathy, and transferred the learning to experiences outside of the lesson. Another student reported some angst after the LKM practice included a wish of love and care for difficult people. She said, “at first it was hard to wish [for a difficult person] good things, but like you said, ‘they’re just like me’, so I can do it now.” People who are able to integrate seemingly polarized perspectives, are able to achieve holistic balance and well-being (Fredrickson, 2014). This young participant displayed the wisdom that many describe comes from practicing LKM (Fredrickson, 2014; Zajonc, 2016).

*(4) Children need more time to share, process feelings, and work out relational issues.*

Another facilitator perception was that children wanted and needed to talk more about their feelings. Each week the majority of the children wanted to respond to a discussion question, and some kids wanted to tell lengthy stories. Although there was a “think/pair/share” activity each session, many students wanted to share the discussion with the facilitator and large group. During week four, the focus of the meditation was to extend feelings of love and kindness to a difficult person. One of the third-grade girls came in that week upset with one another study

participant—she wanted to talk about their fight, their friendship, and her feelings. On the walk back to class there were a few minutes to talk with both girls together, but it was clear they wanted and needed to talk much more. I shared this information with their teacher. The following week both were happy to report that “things were better.”

### Summary

The results of the research questions were presented in this chapter:

1. Will the loving-kindness meditation have a positive effect on positive emotions in second and third-grade students?
2. Will loving-kindness meditation have a positive effect on second and third-grade students' levels of empathy?
3. Will the loving-kindness meditation have a positive effect on second and third-grades level of social connectedness?
4. Will the loving-kindness meditation have a positive effect on second and third-graders problem behaviors?

The results did not support any of the research hypotheses, as quantitative analyses indicated no statistically significant interaction effects. However, there were some main effect findings. ANOVA analysis on the problem behavior construct revealed a significant ( $p=.025$ ) change. This means that problem behaviors were reduced from pre-test to post-testing in both the LKM treatment group and the active comparison groups. Qualitative student perceptions indicated some beneficial outcomes, and qualitative information from teachers suggest that this intervention may have produced some positive effects. Specifically, teachers reported improvements in executive functioning, problem behaviors, emotional regulation, and mood in treatment group students. Finally, facilitator perceptions suggest the intervention may not have

been successfully implemented with all students, and the intervention may have required a maturity level some students did not have.

## CHAPTER FIVE: DISCUSSION

### Summary of Study

The purpose of this dissertation study was to examine the effects of a loving-kindness meditation (LKM) intervention on second and third-grade students. Concerns about K-12 student mental health and their social, emotional, and ethical development have prompted the development of a number of interventions. School-based mindfulness programs are beginning to demonstrate a wide range of student benefits (Black, 2015). Although there is growing empirical support for teaching mindfulness in K-12 settings, the number of school-based mindfulness studies is limited, and the majority of the investigations have focused on students' cognitive rather than affective states (Black, 2015). At the same time, loving-kindness meditation (LKM), a mindfulness- and compassion-based meditation, is emerging as an effective intervention to positively affect factors related to well-being and social and emotional development (Hoffman et al., 2011). However, to date LKM has not been studied with children or youth populations.

The purpose of this quantitative, active comparison trial investigation was addressed in four research hypotheses. It was hypothesized that LKM would positively affect positive emotions, empathy, social connection, and reduce problem behaviors in second and third-grade students. The aforementioned variables are key factors in well-being and social and emotional development. Data were collected through one teacher-reported measure on student problem behaviors and three student self-reported measures of positive emotions, empathy, and social connectedness. Additionally, select teacher, student, and facilitator perceptions about the intervention were recorded. The study included 34 second and third-grade students, and five teachers, at a public charter school during the fall semester of 2015. Students were randomly

assigned to a treatment or a comparison group. The treatment group intervention consisted of five, weekly 30-minute sessions that included an introduction to mindfulness awareness practice, a loving-kindness meditation practice, and the practice of a loving-kindness song and dance. The active comparison group read and discussed character development-themed African folktales. This section will discuss the study findings, study strengths, study limitations, recommendations for future practice and research, and conclusions.

### Summary of Findings

MANOVA and ANOVA results indicated no significant treatment effect findings on any of the variables, however there were some main effect findings. In addition to the quantitative analysis, select qualitative findings were recorded. Facilitator and student perceptions were recorded throughout the intervention, and post intervention a focus group was held to gather teachers' perceptions on program effects. Finally, due to the small sample size, post-hoc power analyses were conducted on each of the statistical tests that were used. The following sections will include a discussion of the individual research questions, including quantitative and qualitative findings.

### Research Question One Results

*1. Will the loving-kindness meditation have a positive effect on positive emotions in second and third-grade students?*

Results of the MANOVA and ANOVA revealed no significant treatment effect findings on the PANAS measure of positive emotions. Given the number of studies showing that LKM produced increases in positive affect (Zeng et al., 2015), these results are somewhat surprising.

However, there are few potential explanations for the results. First, previous LKM studies used adult populations. In addition, this study's small sample size may have limited the ability to detect a statistically significant effect.

### Research Question Two Results

2. *Will loving-kindness meditation have a positive effect on second and third-grade students' levels of empathy?*

Neither the MANOVA nor ANOVA findings demonstrated any significant treatment effect findings, with regards to empathy. Considering the LKM and empathy studies (Hutcherson et al. 2008; 2014; Lutz et al. 2008), this result is also surprising. Again, a potential explanation is that the current study used children, where previous studies used adults.

### Research Question Three Results

3. *Will loving-kindness meditation have a positive effect on second and third-grade students' level of social connectedness?*

Again, there were no significant quantitative findings for the social connectedness variable. However, teachers qualitatively reported students were getting along better and being kinder to one another. In particular, one teacher reported a student (in the LKM group) who had a history of not getting along with others appeared more connected to her classmates post-intervention.



## Research Question Four Results

4. *Will loving-kindness meditation have a positive effect on second and third-grade students' problem behaviors?*

Although MANOVA and ANOVA analyses revealed no significant treatment effect findings on problem behaviors, main effect analyses on the MANVOA ( $p=.057$ ) and ANOVA ( $p=.025$ ) revealed a significant positive change in problem behaviors from pretest to posttest in both treatment and comparison groups. However, the LKM group did no better than the active comparison group, so the hypothesis that LKM would reduce problem behaviors was not supported. However, teacher qualitative reports suggested participants in the LKM group demonstrated positive behavioral changes. Specifically, four of the five teachers reported seeing positive changes in LKM participant student behavior.

Since teachers report dealing with problem student behaviors to be some of the most difficult aspects of their daily jobs (Skinner & Beers, 2016), all findings are important. Regulating negative student behaviors and emotions in the classroom is a common occurrence and, as such, it is very stressful for teachers (Jennings, 2016). Studies indicate this type of stress can reduce teacher's teaching efficacy and motivation, and if prolonged can lead to teacher burnout (Jennings, 2016). Therefore, additional studies using LKM as a means to reduce problem student behaviors is warranted.

### Study Strengths

The majority of this study's strengths are related to literature gaps. This study was the first of its kind to examine the effects of loving-kindness meditation as stand-alone intervention with children. Although LKM is a component of MBSR, and a number of mindfulness school-

based programs are MBSR adapted programs, there is no research discussing the use of an LKM intervention with children or in a K-12 setting. In addition, using a randomized trial design supported the need for stronger study designs and increases the study's internal validity. This study was also conducted in a real life setting with a newly developed LKM curriculum. The pre-post nature of the design was also a study strength, as was the use of a comparison group. It has been noted in the literature that an active comparison design is desirable, as having a control (comparison) group receive a treatment addresses threats to internal validity (Britton et al., 2014).

#### Study Limitations

Conversely, there were a number of study limitations. Practical difficulties associated with implementing the LKM program posed some issues. Despite students being randomly assigned to groups, and teachers' reports of being blind to the group condition, students may have discussed the groups they were in, thus biasing teacher's post-intervention child behavior reporting. Another practical issue was the shortened length of the program. The original protocol, based on Fredrickson and colleagues' (2001) research consisted of a 6-week intervention. Due to the investigational site's schedule, the intervention was cut short and only included 5 weeks. The shortened length of the program brings program fidelity into question.

This research may also have been limited by the particular instruments that were chosen. Although all the measures selected were demonstrated to be valid and reliable, some of the individual scale items have been less reliable. For instance, the Bryant Empathy measure was developed in 1982. The language could be considered somewhat outdated, thus biasing student responses. In addition, since the Child Behavior Checklist-Teacher Report Form was modified,

it is possible that these modifications impacted the reliability of the measure. Likewise, the social connectedness question was also a modified measure. The original social connection measure was intended for adolescents. Therefore the social connection question may not have been developmentally appropriate for second and third-graders. In addition, having only one question measuring social connectedness may not have provided adequate information. Another concern is with the PANAS-C measure. Although the shortness of the PANAS-C instrument was desirable for the young participants in this study, the length of the instrument may have affected the reliability, as shortened versions of the PANAS have been less reliable in some studies (Thompson, 2007). Finally, while the PANAS measures positive and negative affect, only positive affect was analyzed in this study.

Another limitation of this study is the issue of participant compliance. Meditation involves active involvement of participants and it is difficult to determine if the participants were practicing LKM, as intended. In some adult meditation studies home practice diaries are used to assess the level of participant compliance. Subjective reports of participants are also used to determine compliance. Although some students discussed home practice, not explicitly addressing participants' compliance is another limitation in this study.

The lack of demographic information provided is another limitation. The investigational site requested the lengthy demographic section be removed. The modified demographic section included only students' gender, grade, and age. However, the majority of teachers did not provide students' ages. Therefore, name, gender and grade were the only demographics collected, and student demographics were not analyzed. Separating results demographically, may have provided useful information, such as the groups that benefited most and/or groups that were not represented.

The final limitations are related to the missing data reducing the sample size and use of self-reports. Using self-reporting measures with second and third-grade students posed a number of problems. For one, social desirability is always a concern with self-reported measures. Compounding this, the treatment group participants were aware that the loving-kindness meditation was expected to induce positive effects. Therefore, this expectancy could have biased their post-test responses. Self-reporting and/or instrument administration fidelity may have contributed to the large amount of missing data. At the request of the investigational site, teachers administered the participant measures pre and post-testing to their individual classes. Since some classes had larger numbers of students with missing data, the fidelity of instrument administration is questionable. This missing data resulted in the need to remove 38% of the participant data. While 62% of the sample remained, analyses including the missing data may have demonstrated significantly different results. The original sample size was adequate size compared to previous studies. However the small size of this study reduced the power of the results. Post hoc analyses indicated the power to detect an effect, if any existed, was low. And although not statistically significant, an examination of the means indicated a positive trend from pre to post-testing on each of the variables. These final limitations may have reduced the internal validity of the study's findings.

#### Recommendations for Practice

The results of this study have numerous implications for teaching mindfulness/contemplative practices at the investigational site, and for elementary schools in general. As revealed through this study and the literature the use of LKM with second and third-grade students may garner better results if it is facilitated by the classroom teacher, done on a regular

basis, and taught within a mindfulness curriculum (Black, 2015; Jennings, 2016). Shapiro and colleagues (2016) recommend a progression for the use of mindfulness in education, with the following order of mindful practices: *Embodiment, Focused Attention, Heartfulness, and Interconnection*. The belief is that once teachers have a solid mindful practice, they can introduce *embodiment* practices that provide students the opportunity to experience mindfulness in their bodies. For instance, movement exercises, with explicit instruction on noticing sensory experiences (i.e. progressive relaxation exercises), can help students feel comfortable and connected to their bodies. This study supports this theory as the movement portion of the intervention appeared to be best received by the students. Shapiro et al. (2016) stated that mindfulness programs with children, should begin with the body, and only after students have attained body awareness, should breath exercises be introduced. Getting skilled at paying attention, noticing when the mind wanders, and bringing attention back is the goal in focused attention activities. Attention is compared to a muscle and students are provided opportunities to build that muscle (Shapiro et al., 2016). The breath is used as an anchor of *focused attention* in the adult literature, and some consider the breath foundational for all other contemplative practices (Kabat-Zinn, 2003). After *embodiment* and *focused attention* are taught, *heartfulness* can be introduced. *Heartfulness* includes a focus on feelings, an awareness of feelings, and regulation of feelings. With this definition, LKM is a *heartfulness* practice. According to Shapiro et al. (2016), after an awareness in these three areas (body, mind, and heart) is attained, *interconnection* can be encouraged. In *interconnection* students are provided the opportunity to bring mindful compassion into action. This can be in the form of a service project done for their school, the local community, or community at large (Shapiro et al., 2016). In light of this model (Shapiro et al., 2016) the appropriateness of LKM as a standalone intervention with children is

questionable, as the aforementioned guidelines recommend it not be introduced until children have a foundation in body and mind awareness practices.

Although the present study didn't follow the recommended guidelines of practice, some of the recommendations were included. *Embodiment* was taught in the LKM dance and *focused awareness* was introduced with the bell sounding practice and the bean bag breath exercise. Additionally, the bean bag/breath exercise could also be considered transitional from *embodiment* to *focused awareness*, as the bean bag was placed on the stomach, in a reclined position, and the belly was the focus of the exercise (not just an internal focus on the breath). Practices that integrate body, mind, and heart are also encouraged. The LKM meditation in this study's intervention included the body, mind, and heart. Explicit instructions were given including the body ("keep your hand on your heart while you breathe...imagine your breath moving to your heart...see if we can 'feel' love filling our hearts,") the mind ("concentrate on the meaning of the words,") and heartfulness ("May you be happy".) However, in light of Shapiro et al.'s work (2016) published in the first Handbook of Mindfulness in Education (Schonert-Reichl & Roeser 2016), and the present study results, the intervention in this study should be modified. It is recommended that LKM be introduced to students after the body and breath exercises had been practiced for some time. Therefore, this intervention can be used, however a change to the order and timing of components is necessary. The following are recommendations; securing administrative support, including families/encouraging home practice, having a shorter practice as part of the regular day, and including more time for discussion.

The researcher concurs with the recommendation to include LKM as a part of a larger contemplative program and to embed it into the curriculum (Shapiro, 2016), as she believes in a

holistic approach to contemplative teaching and learning, as opposed to a time-limited, add-on type of intervention. Yet, it was still hoped this study's brief intervention would generate results that might encourage teacher interest in contemplative and mindful teaching practices. Findings however, indicated that guided discussions about character strengths (i.e. being fair, being kind) were just as effective as the LKM intervention in reducing problem behaviors. The LKM intervention facilitator also noted a number of students expressed the desire to talk more about their feelings. Therefore, the practice would be best as part of a program that is infused into the curriculum and one that provides ample time for student processing and discussion.

In addition, some literature indicates that when programs are adopted at the school level they are more likely to be successful (Durlak et al., 2007). With this in mind, it is recommend that the administration play a central role in the promotion of any mindful or contemplative education program. This would mean schools would support teachers through professional development opportunities, as well as providing teacher support in a personal mindful practice (Jennings, 2016). A program, would need support for both professional development and a teacher's personal practice. At the same time, it is important that teachers be authentically invested in the program, so it would be wise to offer the opportunity for training in the program, but not require all teachers take part (Jennings, 2016).

As for the current investigational site, this study's researcher introduced an administrator (the active comparison group facilitator) to mindfulness in education, and to the University of California, Berkeley Greater Good Institute for Educators program. The Berkeley program is a K-12 mindfulness-based SEL professional and personal development workshop for educators. This researcher attended the program a few years ago, and the investigational site's administrator is attending the program this summer. The two professionals will be meeting afterword to plan a

professional development workshop for the teachers at the investigational site. In that workshop, study results will be shared in addition to introducing the teachers to the use of mindfulness in education. The researcher is personally invested in supporting the goals of contemplative education. She has facilitated a number of professional development workshops on mindfulness and contemplative education to college faculty, and looks forward to providing training and guidance to K-12 teachers at the investigational site. Since programs implemented by mental health clinicians sometimes produce more positive effects, teacher training and support are vital (Tobler, 2000).

#### Recommendations for Future Research

This dissertation study has inspired a number of recommendations for future research on LKM and other mindfulness-based SEL interventions. The first recommendations are focused on improving the intervention, so it might lead to better outcomes than those found in this study. As noted in the literature review, most school-based mindfulness programs range from four to twelve weeks in length (Mendelson et al., 2010). Research has generally supported the notion that longer programs, with increased practice time, and home practices, have brought about more robust positive change for their participants. This is evident in the mindfulness literature with children and adults (Black, 2015). In addition the literature supports involving families with the program. The current study intervention was initially designed to be six weeks, but because of practical school scheduling conflicts, it was shortened to six weeks. Therefore it is reasonable to hypothesize that a longer intervention, family involvement, and home practice may have produced better results. It would also be worthwhile to see if home practice mediates the effects



of LKM. Some research indicates that home practice positively influences the effects of LKM and other meditation practices (Fredrickson, et al. 2008; Gutierrez, Conley, & Young, 2016).

However, given the LKM research that has demonstrated positive results in a relatively short period of time (Hutcherson et al., 2008), the appropriateness of this intervention is questionable. In addition, most mindfulness-based school programs employ a variety of meditation practices. It is reasonable to hypothesize, based on the available research, the facilitator perceptions, and some treatment group student behaviors, that this intervention might be more useful if it were included in a larger mindfulness program with additional contemplative practices, and perhaps after explicit mindful awareness is taught first. Although many of the LKM intervention studies with adults use LKM as a stand-alone intervention, some believe that LKM should be introduced after individuals have a solid mindfulness practice (Kabat- Zinn, 1994; Shapiro et al., 2016).

As noted, aside from grade and gender, this study did not identify additional information about students. It would be interesting to see whether specific student populations benefited more from the LKM intervention (i.e. gifted students, students with ADHD, and/or learning disabilities). In addition, it would be important to see if there are any harmful effects. In light of recent research noting persons with extreme anxiety may not be suitable for mindfulness practices (Lomas et al., 2014 in Maloney et al., 2016), measuring potential harmful effects is essential. Because mindfulness-based SEL interventions are taught universally, it is vital that detailed student information be collected, and potential benefits and potential harmful effects be examined.

It is important to note that the amount of teacher training for implementing MBI's has yet to be determined (Felver, 2015), so future research should examine how teacher training

mediates the results (Maloney et al., 2016). Research is beginning to indicate the most important ingredient in successful school-based mindfulness programs is the individual teacher's ability to appropriately attend to each moment (Shapiro et al., 2016). So, more important than any specific intervention, some literature indicates that an individual teacher's mindful awareness is paramount (Shapiro et al., 2016; Jennings, 2016). And while some teachers are inherently more mindful than others, a personal mindful practice is indicated as a prime factor in successful mindfulness teaching (Shapiro et al., 2016). Therefore, examining the mediating effects of teachers' mindfulness would be valuable to future mindfulness intervention research.

Finally, there is a need to differentiate between the types of practices employed in mindfulness research (Shapiro et al., 2016). This study may be the first to explicitly study LKM with elementary school-age children. Details on types of meditation, program implementation, and teacher's mindfulness background need to be examined, with an emphasis on meditation compliance (for both study participants and teachers/facilitators). The current researcher, who was also the intervention facilitator, has had a regular mindfulness practice for over five years. Not only do mindfulness facilitators need their own mindful practice to be effective mindfulness teachers, but it may be equally important for mindfulness researchers to have a mindful practice, as it can enhance the understanding of the phenomena they are studying (Shapiro et al., 2016). Therefore, an examination of the researcher's mindful practice is also recommended.

### Conclusion

The purpose of this study was to see if an LKM intervention would positively affect second and third-grade students' levels of positive emotions, empathy, social connectedness, and problem behaviors. These variables are key factors in well-being and social and emotional

development. The study had a number of strengths as well as limitations. An experimental active comparison design in a real world setting was used and the study addressed a number of literature gaps. However, the study was limited by the amount of missing data, resulting in a small sample size, and the problems associated with self-reported measures.

Study results did not support the hypotheses that LKM would positively affect the aforementioned variables. The findings were initially surprising, however there were a number of potential explanations for the findings. For one, the developmental appropriateness of LKM as a stand-alone interventions is questionable. Since this program was not connected to the curriculum, a thirty minute intervention may have been too long. LKM may be appropriate in educational settings when it is taught by classroom teachers, it is shorter in duration, and it is a component of a mindfulness curriculum. In addition, it may be best to introduce LKM to elementary school-aged students as part of a progressive mindful awareness program, with parent involvement and home practice encouraged. Perhaps most important, this study may support the theory that mindful awareness practices in educational settings are best taught in this order: body, mind, heart (Shapiro, et al., 2016). With these explanations in mind, this current study will hopefully encourage future research on LKM and other well-being interventions educational settings.

## **APPENDIX A: IRB APPROVAL**



Orlando, Florida 32826-3246

University of Central Florida Institutional Review Board  
Office of Research & Commercialization

12201 Research Parkway, Suite 501

Telephone: 407-823-2901 or 407-882-2276  
[www.research.ucf.edu/compliance/irb.html](http://www.research.ucf.edu/compliance/irb.html)

## Approval of Human Research

**From: UCF Institutional Review Board #1  
FWA00000351, IRB00001138**

**To: Doreen Collins-McHugh**

**Date: August 24, 2015**

Dear Researcher:

On 08/24/2015, the IRB approved the following human participant research until 08/23/2016 inclusive:

Type of Review: UCF Initial Review Submission Form  
Project Title: The Effects of a Loving-Kindness Meditation  
Intervention on Positive Emotions, Social  
Connectedness, and Behaviors in Second and Third  
Grade Students.  
Investigator: Doreen Collins-McHugh  
IRB Number: SBE-15-11509  
Funding Agency:  
Grant Title:  
Research ID: N/A

The scientific merit of the research was considered during the IRB review. The Continuing Review Application must be submitted 30 days prior to the expiration date for studies that were previously expedited, and 60 days prior to the expiration date for research that was previously reviewed at a convened meeting. Do not make changes to the study (i.e., protocol, methodology, consent form, personnel, site, etc.) before obtaining IRB approval. A Modification Form **cannot** be used to extend the approval period of a study. All forms may be completed and submitted online at <https://iris.research.ucf.edu>.

If continuing review approval is not granted before the expiration date of 08/23/2016, approval of this research expires on that date. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Participants or their representatives must receive a copy of the consent form(s).

All data, including signed consent forms if applicable, must be retained and secured per protocol for a minimum of five years (six if HIPAA applies) past the completion of this research. Any links to the identification of participants should be maintained and secured per protocol. Additional requirements may be imposed by your funding agency, your department, or other entities. Access to data is limited to authorized individuals listed as key study personnel.

In the conduct of this research, you are responsible to follow the requirements of the [Investigator Manual](#).

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

A handwritten signature in black ink that reads "Joanne Muratori". The signature is written in a cursive style with a large initial "J" and "M".

Signature applied by Joanne Muratori on 08/24/2015 11:18:31 AM EDT

IRB manager

## **APPENDIX B: INFORMED CONSENT**



## The Effects of a Loving-Kindness Meditation Intervention on Positive Emotions, Social Connectedness, and Behaviors in Second and Third Grade Students.

### Informed Consent

Principal Investigator: Doreen Collins-McHugh, M.A.

Faculty Advisor: Michele Gill, Ph.D.

Investigational Site(s): Galileo School for Gifted Learning  
2251 Jitway Avenue, Sanford, FL 32771  
Phone: 321  
249-9221

**How to Return this Consent Form:** You are provided with two copies of this consent form. If you give consent for your child to participate in the research, please sign one copy and return it to your child's teacher and keep the other copy for your records.

**Introduction:** Researchers at the University of Central Florida (UCF) study many topics. To do this we need the help of people who agree to take part in a research study. You are being asked to allow your child to take part in a research study which will include approximately 70 second and third grade students at Galileo School for Gifted Learning. Your child is being invited to take part in this research study because he or she is a second or third grade student at Galileo.

The person doing this research is Doreen Collins-McHugh, a doctoral student in the Department of Education at the University of Central Florida. Because the researcher is a graduate student she is being guided by Michele Gill, Ph.D., a UCF faculty advisor in the Department of Education.

#### What you should know about a research study:

- Someone will explain this research study to you.
- A research study is something you volunteer for.
- Whether or not you take part is up to you.
- You should allow your child to take part in this study only because you want to.
- You can choose not to take part in the research study.



- You can agree to take part now and later change your mind.
- Whatever you decide it will not be held against you or your child. ☐ Feel free to ask all the questions you want before you decide.

1 of 6

**Purpose of the research study:** Research indicates students are experiencing stress at unprecedented rates, which can lead to emotional distress and poor academic outcomes. A number of mindfulness-based approaches have been successful in addressing this problem. Loving-kindness meditation (LKM), a compassion based meditation, is a mindfulness-based practice of wishing happiness and contentment to oneself and to others. This practice has proven to reduce stress, increase positive emotions, and enhance social connections. The purpose of this study is to investigate if a brief (thirty minutes, once a week, for six weeks) loving kindness meditation intervention can increase positive emotions, increase social connectedness, and positively affect behaviors in second and third grade students.

**What your child will be asked to do in the study:** Children will randomly assigned to a group that will be reading about compassion or to the LKM group, where they will be taught the loving-kindness meditation intervention. If your child is not selected for the LKM treatment group they will be offered the opportunity to participate in the treatment group in January, 2016. This is completely optional. The following provides some details about the study:

- It will occur during your child's regularly scheduled reading time.
- Pre and post measures of behavior will be administered by your child's teacher
- Pre and post measures of positive emotions and empathy will be administered by the principle investigator.
- Students will meet for 30 minutes, once a week, for six weeks, for the group intervention. ☐ The LKM Group will be facilitated by Doreen Collins-McHugh. It will include three parts:
  - An introduction to mindfulness (breath instruction and attending to the sound of a bell)
  - Reading/practicing a LKM meditation Script
  - Singing /Dancing a LKM song
  - The Comparison Group will be facilitated by Derek Cavilla. Six folktales addressing character development will be read, including a discussion about the themes of each story.
- Time line:
  - Wednesday September 30<sup>th</sup>- consent form is due.
  - Week of October 5<sup>th</sup>- Pre-test measures will be administered
  - Week of October 5<sup>th</sup>- Students will be randomly assigned to LKM group or to comparison group.

- Students will meet on Wednesdays, for thirty minutes, for six weeks, beginning on Wednesday, October 14 and ending on Wednesday, November 18.
- Students will meet in focus groups one additional time for approximately 20-30 minutes on a time convenient for teachers, prior to Wednesday, November 25, 2015.
- Post-test measures will be administered on Wednesday, December 2, 2015.

**Location:** All meetings will take place at Galileo School for Gifted Learning.

**Time required:** We expect that your child will be in this research study for eight weeks, for a total of no more than 4.5 hours. For six weeks he/she will meet for 30 minutes in student groups during a portion of his/her regularly scheduled reading time block. The pre and post-test measures will be administered one week before and one week after the 6 week intervention period; they will take 20 minutes or less each time. One additional 20-30 minute focus group meeting will take place after the last group meeting. This meeting will take place during the school day, at a time that is convenient for your child's teacher, during a non-instructional time.

Your child may be audio taped during this study. If you do not want your child to be audio taped, your child will still be able to participate in the study. Discuss this with the researcher or research team member. If your child is audio taped, the tape will be kept in a locked, safe place. The tape will be erased or destroyed when the study analysis is complete, no later than August 31, 2016.

**Risks:** Although there are no anticipated risks for participating in this study, there is a small risk that participating students may experience discomfort when singing, dancing, wishing others well, or discussing characters/morals in the folktales. However, these activities are similar to the types of activities your child engages in regularly at Galileo, therefore the risks are considered minimal; or to be non-existent.

**Benefits:**

We cannot promise any benefits to you, your child, or others from your child taking part in this research. However the mindfulness literature indicates there can be numerous benefits to children. Some possible benefits include experiencing an increase in:

- positive emotions
- stress coping abilities
- social connection(s) to classmates
- prosocial behaviors
- Increased attention
- Increased empathy
- Increased general well-being (happiness)

**Compensation or payment:**

There is no compensation, payment or extra credit for your child's part in this study.

**Confidentiality:** We will limit your personal data collected in this study. Efforts will be made to limit your child's personal information to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the IRB and other representatives of UCF.

**Study contact for questions about the study or to report a problem:** If you have questions, concerns, or complaints, or think the research has hurt your child talk to Doreen Collins-McHugh, Graduate Student, College of Education (407)383-9724 or by email at [dcm@knights.ucf.edu](mailto:dcm@knights.ucf.edu) or Dr. Michele Gill, Faculty Supervisor, School of Teaching, Learning, & Leadership (407) 823-1771 or by email at [Michele.Gill@ucf.edu](mailto:Michele.Gill@ucf.edu).

**IRB contact about you and your child's rights in the study or to report a complaint:** Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901. You may also talk to them for any of the following:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You want to get information or provide input about this research.

### **Withdrawing from the study:**

You may decide not to have your child continue in the research study at any time without it being held against you or your child. If you decide to have your child leave the research, there are no adverse consequences. If you decide to have your child leave the study, contact the investigator so that the investigator can remove your child from the study.

### **Results of the research:**

At the end of the study, August 2016, Galileo School for Gifted Learning will receive a report of the study results. You are welcome to request a copy of these results.

\

Your signature below indicates your permission for the child named below to take part in this research.

---

DO NOT SIGN THIS FORM AFTER THE IRB EXPIRATION DATE BELOW

---

Name of participant

---

Signature of parent or guardian

---

Date

Parent

Guardian (See note below)

---

Printed name of parent or guardian

---

**Note on permission by guardians:** An individual may provide permission for a child only if that individual can provide a written document indicating that he or she is legally authorized to consent to the child's general medical care. Attach the documentation to the signed document.

## **APPENDIX C: CHARITY KHAN LKM SONG AND DANCE**

# LOVINGKINDNESS

**A**                    **A**  
May I be happy, may I be well

**D**        **E**        **A**  
May I be safe and sound

**A**                    **A**  
May I be peaceful, may I be at ease

**D**            **E**            **A**  
With love in my heart and all around

May you be happy, may you be well  
May you be safe and sound  
May you be peaceful, may you be at ease  
With love in your heart and all around

**A**  
You can sing your love

**E**  
You can dance your love

**Bm**  
You can play your love

**D**  
Today, my love

**A**  
You can laugh your love

**E**  
You can cry your love

**Bm**  
You can walk your love

**D**  
And you can fly your love

**A**  
All around

May I be happy, may I be well  
May I be safe and sound  
May I be peaceful, may I be at ease  
With love in my heart and all around

May you be happy, may you be well  
May you be safe and sound  
May you be peaceful, may you be at ease  
With love in your heart and all around

You can sit with your love  
You can breathe with your love  
You can listen to your love  
It's in your heart, my love  
You can share your love  
You can shine your love  
You can be your love  
And you can spread your love  
All around



May we be happy, may we be well  
May we be safe and sound  
May we be peaceful, may we be at ease  
With love in our hearts and all around

May we be happy, may we be well  
May we be safe and sound  
May we be peaceful, may we be at ease  
With love in our hearts and all around

Lovingkindness appears on the 2012 Charity and the JAMband family music album, Family Values.  
Words and music copyright 2010 Charity Kahn. Download the song at [www.jamjamjam.com](http://www.jamjamjam.com) or on iTunes.

## **APPENDIX D: LKM PROTOCOL/SCRIPT**

## **Treatment/LKM Group Protocol**

Six sessions, 30 minutes, once a week for six weeks.

### **Session One:**

#### **Objectives:**

1. Introduce ritual of sounding a bell three times to start and end sessions.
2. Discuss purpose of study
3. Introduce concepts of mindfulness & loving-kindness meditation (LKM).
4. Begin practice of LKM.
5. Discussion/Process
6. Sing and Dance a Loving-Kindness song.
7. End with bell ritual.

#### **Procedure:**

1. Facilitator will instruct students to quietly listen to the sound of a bell (sounded three times) and raise their hands when they no longer hear the sound. Let them know we will start and end each meeting this way. (2 minutes)
2. Discuss purpose of study. We are trying to see if doing a loving-kindness meditation will make students happier. (1 minute)
3. Introduce concepts of mindfulness & LKM (5 minutes)
4. Practice LKM script. (8 minutes)
5. Process and discuss the experience. (4 minutes)
6. Play Loving-kindness Video Song/Dance. Hand out the singalong script. (4 min)
7. End with sounding of the bell – three times. (1 minute)

#### **Guidelines:**

Introduction to Mindfulness and Loving-Kindness Meditation



- Over the course of this 6-week class we will learn the strategies for, being happy students. Do you know the difference between positive and negative emotions? Can you give me some examples positive emotions? Can you give me some examples of negative emotions? We are going to a loving- kindness practice because research shows that this practice can make people happier and have more of those positive emotions that we just discussed.
- Have you ever heard of meditation? Facilitate responses. The practice we are going to learn today, and do each week, is called a loving-kindness meditation. It is in a category called “mindfulness” What do you think it means when someone says “are you being mindful?” One definition is “To pay attention on purpose in the moment”. Discuss examples: i.e. - playing a sport, reading a book, doing a chore, riding a bike, focusing on our breathing.
- Research shows that when we practice mindfulness we can pay better attention in school, we can be less impulsive, we can be less forgetful and we can be happier (provide examples of each).
- Loving-kindness meditation (LKM) uses mindfulness to create kind and nice feelings and direct them to ourselves and then send these kind thoughts out to other people.
- Have students generate kind self-thoughts and some unkind self- thought examples.
- When we wish kind thoughts for ourselves and for other people it can help us feel more connected to our classmates, families, friends, people we don’t know, and even people we may not like!!

- This practice can help us cope with any angry feelings and other negative emotions. It can also help fill us with positive emotions, such as empathy, compassion, and happiness (define and generate examples) which can help us get along better with everyone.

**Loving-Kindness Exercise Script:**

Let's make sure we are all sitting in a comfortable and relaxed position. Now let's take some slow deep breaths together (breathe aloud with them). Everyone show me where your heart is (gesturing hand on chest). Keep your hand on your heart while you breathe and imagine your breath is moving to your heart. Now we really need to use our imaginations, let's see if we can "feel" love filling our hearts with every breath. Now, let's concentrate on these words:

May I be happy.

May I be healthy.

May I be safe.

May I be peaceful and at ease.

Now, let's repeat these phrases together and see if you can really focus on what the words mean as you wish them for yourself:

May I be happy.

May I be healthy.

May I be safe.

May I be peaceful and at ease.

Now mentally repeat these phrases silently, in a slow and mindful fashion:

May I be happy.

May I be healthy.

May I be safe.

May I be peaceful and at ease.

Now let's silently repeat the following:

May I be happy.

May I be healthy.

May I be safe.

May I be peaceful and at ease.

**Week One:** Focus on self

**Week Two:** Focus on a “benefactor” someone child loves, someone who takes care of them

After a period of directing loving-kindness toward yourself, bring to someone in your life who has deeply cared for you. Give examples (parents, grandparents). Ask if everyone has someone in mind, and then ask them (if comfortable) to close their eyes and generate a mental picture of this person. Then slowly repeat phrases of loving-kindness toward them.

**Week Three:** Focus on a friend. Follow week two outline, adding a friend for the last loving-kindness practice.

**Week Four:** Focus on a neutral person. Continue as noted above (starting with self, then benefactor, then a friend), adding a neutral person. Provide examples of a neutral person. A neutral person is someone that you don't have strong feelings about. For instance someone in your class that you don't know that well, or someone you have seen in your neighborhood a few times could be a neutral person. They are called “neutral” because you don't know them well enough to like them a lot or to not like them. Can everyone think of a neutral person? Repeat the Loving-kindness script towards the neutral person.

**Week Five:** Focus on a “difficult” person. Follow week four directions, adding a difficult person. A difficult person is someone who we may not get along with all the time, it could be someone we don’t like, someone we think is mean or someone we think is a bully.

**Week Six:** Focus on all beings everywhere. Follow week five directions adding lastly, “All beings everywhere”. This includes every person, every animal, and every living thing in the world.

**Process and Discussion:** What was the experience like for them? Allow them to share.

At end of discussion: I just want to remind you that it’s OK if you didn’t “feel” the phrases or if your mind wandered. If you noticed that your mind wandered (provide examples), that is actually being mindful. So anytime our mind wanders, we can just notice it, and bring our attention back to the phrases. That is really hard to do sometimes, but if we practice saying these words we learned- just a few minutes every day- it can help us to be more mindful. So maybe every time we brush our teeth, we could say these loving-kindness words to ourselves. Generate some other examples of a time during the day that they could get into the “habit” of practicing the LKM meditation. And remember, just trying to think about the words we are saying, is very important- even if your mind wanders. Every time you do it, you may notice something different- that is perfectly natural!

**Sessions Two through Six (each week the LKM practice will build on the previous week)**

**Objectives:**

1. Continue bell/mindfulness ritual
2. Check on any home LKM practice since previous week.
3. Breathe Exercise/Reminder about mindful constructs.
4. Practice of LKM:

- Week Two Focus: Benefactor
- Week Three Focus: Friend
- Week Four Focus: Neutral Person
- Week Five: Difficult Person
- Week Six: All Beings Everywhere

5. Discussion/Process

6. Loving-Kindness song/dance.

7. End with sound of bell- three times

**Procedure:**

1. Facilitator will sound the bell three times as a sign of the meeting start. (1 minute)
2. Facilitate discussion on mindfulness practices since the previous week. (3 minutes)
3. Breath Exercise: Place a bean bag on stomach while lying down and notice the stomach rise and fall with the breath. (6 minutes)
3. Practice LKM script (10 minutes)
5. Process and discuss the experience (Think/Pair/Share) (5 minutes)
6. Sing/Dance Loving-Kindness Song/Dance with video. (4 min)
7. End with sounding of bell – three times to signify ending of the meeting. (1 minute)

\* NOTE: weeks four and five were combined

## **APPENDIX E: COMPARISON GROUP DISCUSSION QUESTIONS**

### **The Pompous Elephant**

What is the theme of this story?

How would you feel if you were the elephant's friend?

If you were the elephant, would you act the same or different? Why?

Why do you think the author wrote this book?

If you were the elephant's friend, what advice might you give him?

What examples of "vivid" vocabulary did you see or hear in the story?

### **Jackal's Nasty Words**

What is the theme of this story?

How would you feel if you were the jackal's friend?

If you were the jackal, would you act the same or different? Why?

Why do you think the author wrote this book?

If you were the jackal's friend, what advice might you give him?

What examples of "vivid" vocabulary did you see or hear in the story?

### **The Cheetah Who Ran Too Fast**

What is the theme of this story?

Why do you think the Cheetah always went so fast?

If you were the cheetah, would you act the same or different? Why?

Why do you think the author wrote this book?

If you were the cheetah's friend, what advice might you give him?

What examples of "vivid" vocabulary did you see or hear in the story?

### **The Toothless Lion**

What is the theme of this story?

How would you feel if you were the lion?

If you were one of the animals in the forest, would you act the same or different? Why?

Why do you think the author wrote this book?

If you were the lion's friend, what advice might you give him?

What examples of "vivid" vocabulary did you see or hear in the story?

### **Hyena's Laugh**

What is the theme of this story?

How would you feel if you were the hyena?

If you were the hyena, would you act the same or different? Why?

Why do you think the author wrote this book?

If you were the hyena's friend, what advice might you give him?

What examples of "vivid" vocabulary did you see or hear in the story?

### **Two Wild Dogs**

What is the theme of this story?

How would you feel if you were the wild dogs' parents?

If you were one of the wild dogs, would you act the same or different? Why?

Why do you think the author wrote this book?

If you were the wild dogs' friend, what advice might you give him?

What examples of "vivid" vocabulary did you see or hear in the story?



## **APPENDIX F: PANAS MEASURE**

Name \_\_\_\_\_

(PANAS-C) – Feelings and Emotions

Circle the word(s) that describe how much you have felt this way during the past few weeks.

1. **Mad**      Not much or  
                  Not at all      A little      Some      Quite a bit      A lot



- 
2. **Joyful**      Not much or  
                  Not at all      A little      Some      Quite a bit      A lot



- 
3. **Afraid**      Not much or  
                  Not at all      A little      Some      Quite a bit      A lot



- 
4. **Proud**      Not much or      A little      Some      Quite a bit      A lot

Not at all



5. **Lively** Not much or  
Not at all

A little

Some

Quite a bit

A lot



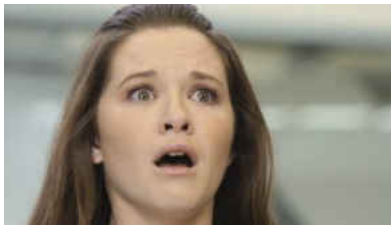
6. **Scared** Not much or  
Not at all

A little

Some

Quite a bit

A lot



7. **Cheerful** Not much or Not at all A little Some Quite a bit A lot



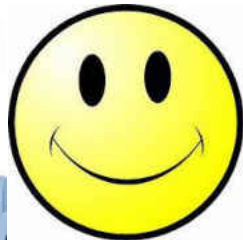
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8. **Miserable** Not much or Not at all A little Some Quite a bit A lot



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9. **Happy** Not much or Not at all A little Some Quite a bit A lot



---

10. **Sad** Not much or Not at all A little Some Quite a bit A lot



## **APPENDIX G: BRYANT EMPATHY**

Name \_\_\_\_\_

Read the statements below and circle if you believe/feel the sentence is true or false.

- True False 1. It makes me sad to see a girl who can't find anyone to play with.
- True False 2. People who kiss and hug in public are silly.
- True False 3. Boys who cry because they are happy are silly.
- True False 4. I really like to watch people open presents, even when I don't get a present myself.
- True False 5. Seeing a boy who is crying makes me feel like crying.
- True False 6. I get upset when I see a girl being hurt.
- True False 7. Even when I don't know why someone is laughing, I laugh too.
- True False 8. Sometimes I cry when I watch TV.
- True False 9. Girls who cry because they are happy are silly.
- True False 10. It's hard for me to see why someone else gets upset.
- True False 11. I get upset when I see an animal being hurt.
- True False 12. It makes me sad to see a boy who can't find anyone to play with.
- True False 13. Some songs make me so sad I feel like crying.
- True False 14. I get upset when I see a boy being hurt.
- True False 15. Grown-ups sometimes cry even when they have nothing to be sad about.
- True False 16. It's silly to treat dogs and cats as though they have feelings like people.
- True False 17. I get mad when I see a classmate pretending to need help from the teacher all the time.

- True False 18. Kids who have no friends probably don't want any.
- True False 19. Seeing a girl who is crying makes me feel like crying.
- True False 20. I think it is funny that some people cry during a sad movie or while reading a sad book.
- True False 21. I am able to eat all my cookies even when I see someone looking at me wanting one.
- True False 22. I don't feel upset when I see a classmate being punished by a teacher for not obeying school rules.



## **APPENDIX H: SOCIAL CONNECTEDNESS QUESTION**

Circle the word(s) that best fit how you feel about this question:

I “feel connected”, “feel part of the group”, and “see myself as one” with my classmates.

strongly  
disagree

disagree

neutral

agree

strongly  
agree

**APPENDIX I: CHILD BEHAVIOR CHECKLIST-TEACHER REPORT  
FORM**



- 0 1 2 5. There is very little he/she enjoys
- 0 1 2 6. Defiant, talks back to staff
- 0 1 2 7. Bragging, boasting
- 0 1 2 8. Can't concentrate, can't pay attention for long
- 0 1 2 9. Worries
- 0 1 2 10. Can't sit still, restless, or hyperactive
- 0 1 2 11. Clings to adults or too dependent
- 0 1 2 12. Complains of loneliness
- 0 1 2 13. Confused or seems to be in a fog
- 0 1 2 14. Cries a lot
- 0 1 2 15. Fidgets
- 0 1 2 16. Cruelty, bullying, or meanness to others
- 0 1 2 17. Daydreams or gets lost in his/her thoughts
- 0 1 2 18. Demands a lot of attention
- 0 1 2 19. Destroys his/her own things
- 0 1 2 20. Destroys property belonging to others
- 0 1 2 21. Difficulty following directions
- 0 1 2 22. Disobedient at school
- 0 1 2 23. Disturbs other pupils
- 0 1 2 24. Doesn't get along with other pupils
- 0 1 2 25. Easily jealous
- 0 1 2 26. Doesn't seem to feel guilty after misbehaving
- 0 1 2 27. Fears going to school
- 0 1 2 28. Underactive, slow moving, or lacks energy
- 0 1 2 29. Fears he/she might think or do something bad
- 0 1 2 30. Feels he/she has to be perfect
- 0 1 2 31. Feels or complains that no one loves him/her

- 0 1 2 32. Feels others are out to get him/her
- 0 1 2 33. Feels worthless or inferior
- 0 1 2 34. Gets hurt a lot, accident-prone
- 0 1 2 35. Gets in many fights
- 0 1 2 36. Gets teased a lot
- 0 1 2 37. Impulsive or acts without thinking
- 0 1 2 38. Would rather be alone than with others
- 0 1 2 39. Bites fingernails
- 0 1 2 40. Nervous, high-strung, or tense
- 0 1 2 41. Overconforms to rules
- 0 1 2 42. Not liked by other pupils
- 0 1 2 43. Has difficulty learning
- 0 1 2 44. Too fearful or anxious
- 0 1 2 45. Feels too guilty
- 0 1 2 46. Talks out of turn
- 0 1 2 47. Overweight
- 0 1 2 48. Physically attacks people
- 0 1 2 49. Sleeps in class
- 0 1 2 50. Apathetic or unmotivated
- 0 1 2 51. Poor schoolwork
- 0 1 2 52. Poorly coordinated or clumsy
- 0 1 2 53. Prefers being with younger children
- 0 1 2 54. Refuses to talk
- 0 1 2 55. Disrupts class discipline
- 0 1 2 56. Screams a lot
- 0 1 2 57. Secretive, keeps things to self
- 0 1 2 59. Self-conscious or easily embarrassed
- 0 1 2 60. Messy work
- 0 1 2 61. Breaks school rules

- 0 1 2 61. Showing off or clowning
- 0 1 2 62. Too shy or timid
- 0 1 2 63. Explosive or unpredictable behavior
- 0 1 2 64. Demands must be met immediately
- 0 1 2 65. Inattentive or easily distracted
- 0 1 2 66. Speech problem
- 0 1 2 67. Stares blankly
- 0 1 2 68. Feels hurt when criticized
- 0 1 2 69. Stubborn, sullen, or irritable
- 0 1 2 70. Sudden changes in mood or feeling
- 0 1 2 71. Sulks a lot
- 0 1 2 72. Suspicious
- 0 1 2 73. Talks about killing self
- 0 1 2 74. Underachieving, not working up to potential
- 0 1 2 75. Talks too much
- 0 1 2 76. Teases a lot
- 0 1 2 77. Temper tantrums or hot temper
- 0 1 2 78. Threatens people
- 0 1 2 79. Tardy to school or class
- 0 1 2 80. Smokes, chews, or sniffs tobacco
- 0 1 2 81. Unhappy, sad, or depressed
- 0 1 2 82. Unusually loud
- 0 1 2 83. Overly anxious to please
- 0 1 2 84. Dislikes school
- 0 1 2 85. Is afraid of making mistakes
- 0 1 2 86. Whining
- 0 1 2 87. Unclean personal appearance
- 0 1 2 88. Withdrawn, doesn't get involved with others
- 0 1 2 89. Hangs around with others who get in trouble
- 0 1 2 90. Deliberately harms self or attempts suicide

- 0 1 2 91. Feels dizzy or lightheaded
- 0 1 2 92. Overtired without good reason
- 0 1 2 93. Prefers being with older children or youths
- 0 1 2 94. Steals
- 0 1 2 95. Swearing or obscene language
- 0 1 2 96. Tardy to school or class
- 0 1 2 97. Truancy or unexplained absences
- 0 1 2 98. Lying or cheating
- 0 1 2 99. Stores up to many things he/she doesn't need
- 0 1 2 100. Fails to carry out assigned tasks



## **APPENDIX J: RESEARCHER'S CONNECTION TO THE RESEARCH**

“We should do this every class,” said student Joel Chesser in 2011 after I facilitated a meditation practice in my general psychology class. Other students agreed. This teaching and learning experience was the beginning of my path towards becoming a contemplative educator. I had introduced a mindfulness meditation practice once a semester for years as a psychology professor, but on that particular day it was received differently. Why? I had begun a regular meditation practice—which I believe my students sensed that day. Since that time, I have continued with a personal meditation and yoga practice and I have incorporated contemplative practices into all of my classes. I believe meditation has positively influenced the connection and engagement of my students and the depth of their learning. I particularly see a positive change in my service learning classes.

I began my career as a licensed mental health counselor, working in a college setting, a private practice, and in hospitals. I think therapy, counseling, and wellness coaching are useful and important, but meditation can be made available to all—not only those who can afford it. And in some instances meditation provides more than traditional analytical psychotherapy. Meditation can teach people to pause, before mindlessly reacting. It helps to integrate the emotional and analytical—which is critically important for well-being. So through the practice of meditation (that some students choose to do on their own time) they report being happier. However, the insight gained through meditation can provide much more than happiness. It can transform people in a spiritual way and provide a deep way of knowing.

I had the great fortune of meeting Arthur Zajonc, former Professor of Physics and former Director of the Association of Contemplative Mind in Higher Education. He describes holistic knowing as the goal of education. When students are educated holistically, they are given the chance to think critically and to directly experience the concepts they are learning.

Contemplative practices can provide this direct experience. Contemplative knowing adds to critical thinking; when we become more aware we can deeply feel and understand things in a new way. Loving-kindness can provide people with the direct experience of love, kindness, and compassion for others. Most parents say they want their children to be happy. Wouldn't we all be happier if we practiced and received love, kindness, and compassion? The Dalai Lama—and neuroscientific evidence—says yes!!

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