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Improving Elementary Teachers' Well-Being through a Strengths-Based Intervention: A Multiple Baseline Single-Case Design

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Improving Elementary Teachers' Well-Being through a Strengths-Based Intervention:
A Multiple Baseline Single-Case Design

by

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A thesis submitted in partial fulfillment
of the requirements for the degree of
Education Specialist
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Abstract

Teaching is considered to be one of the most highly demanding professions, and one that is associated with high levels of stress and sometimes deleterious outcomes. Although research demonstrates that burnout and attrition are often associated with specific characteristics of the occupation (e.g., challenging workload, standardized testing, merit-based salary) minimal research focuses on how to better support teachers' well-being. The field of positive psychology affords a new perspective in how to obtain quality mental health without solely focusing on psychopathology within a deficits-based approach. This includes the implementation of interventions (i.e., positive psychology interventions [PPI]) that target constructs of well-being (e.g., character strengths, hope, optimism, gratitude, etc.) and are associated with positive changes in authentic happiness. This study examined how a strength-based, PPI entitled *Utilizing Signature Strengths in New Ways* (Seligman, Steen, Park, & Peterson, 2005) impacts dimensions of teacher well-being, as well as other relevant outcomes (i.e., flourishing, burnout) within the school context. Previous research has shown that strengths-based intervention to be the PPI with the most substantial impact and the longest lasting outcomes (Seligman et al., 2005). Utilizing a concurrent multiple baseline single-case design with eight teachers, the study evaluated the effects of the strengths-based PPI on teacher's overall happiness (i.e., subjective well-being) as indicated by self-report measures of life satisfaction and positive and negative affect. The teachers exhibited significant gains in life satisfaction and reductions in negative affect from pre- to post-intervention that were also evident one month following the intervention. Although

positive affect did not significantly change from pre- to post-intervention, a significant gain was apparent at one-month follow-up. Single-case analytic strategies (i.e., visual analysis, masked visual analysis, and hierarchical linear modeling) found that the intervention positively impacted teachers' overall subjective well-being (composite of standardized life satisfaction, positive affect, and negative affect scores). Results for single indicators of subjective well-being found variability in basic effects among different individuals (i.e., some teachers benefited more than others) further supporting the theory of person-activity fit. Regarding the intervention's effects on secondary outcomes that were examined only at pre, post, and one-month follow-up time points, findings indicated the teachers experienced a significant increase in work satisfaction immediately following the intervention, as well as a significant increase in feelings of flourishing at follow-up. Significant decreases in negative dimensions of teachers' mental health including stress and burnout (i.e., emotional exhaustion) were also demonstrated. Findings from the current study provide initial support for the efficacy of a teacher-focused, strengths-based intervention and its ability to improve multiple components of teacher well-being within an elementary school. Implications for school psychologists and policy, contributions to the literature, and future directions are discussed.

Chapter 1

Introduction

Statement of the Problem

Teacher attrition rates are a significant problem that continues to plague the education system. It is estimated that 20% of beginning teachers leave within the first five years of teaching in the United States (Chang, 2009). Some decisions to leave the field are associated with poor work-related well-being. Research indicates that teachers experience one of the most highly stressful professions (Stoeber & Rennert, 2008); yet, methods of how to support educators in coping with such stressful conditions are limited. Much of research has targeted the negative aspects of the teaching profession including job-related stress and burnout. Teacher burnout has been conceptualized as the result of enduring exposure to high levels of occupational stress and is often associated with individuals working within the human service industry such as teachers (Jennett, Harris, & Mesibov, 2003). A teacher is likely to be deemed successful on the basis of high levels of student achievement. Such teacher factors that contribute to quality student performance include low levels of stress, demonstrating no indicators of burnout, and exhibiting high job-related satisfaction (Kyriacou, 2001). The focus on negative indicators of teacher mental health (i.e., burnout) provides no indication of how to intervene and promote overall wellness.

In recent years, the positive psychology movement has begun to pull away from the deficits-based approach that has characterized the field for decades. Much of psychological

research has focused on human psychopathology and how individuals respond to negative human experiences. As an antithesis, positive psychology seeks to understand the positive components of life examining the influence of human strengths, striving, and personal achievements (Seligman & Csikszentmihalyi, 2000). Such initiative in research has unveiled the significant benefits of subjective well-being, which is a scientific term for happiness (Seligman, 2002). Research has shown that happier individuals tend to have strong social relationships (Diener & Biswas-Diener, 2008) and experience better overall health including fewer physical symptoms (Roysamb et al., 2003). Additionally, these individuals demonstrate healthier lifestyles (Diener & Biswas-Diener, 2008) which can buffer against stressful conditions, and reduce the risk of developing mental health symptoms (Keyes, Myers, & Kendler, 2010; Wood & Joseph, 2010).

Research has also shown a positive relationship between happiness and indicators of work-related success. Happier workers tend to be much more productive, earn more money, and more positively support their peers (Boehm & Lyubomirsky, 2008). Within the school context, Duckworth, Quinn, and Seligman's (2009) research has also demonstrated that positive indicators of well-being including life satisfaction are predictive of students' academic achievement. Through a review of the literature, Jennings and Greenberg (2009) found evidence to suggest that teachers' social-emotional competence and overall well-being are crucial specifically in maintaining a positive classroom climate and supportive student-teacher relationships. Minimal research exists on the current strategies implemented today to promote teacher well-being and how teacher happiness can be influenced and readily increased in the school context.

As of recently, much of positive psychology research and practice has focused on implementation of positive psychology interventions, or PPIs, in pursuit of promoting individual

well-being and decreasing the influence of psychopathology symptoms. This interest in exploring how happiness can be increased through various strategies and methods stems from the recognition of the positive influence of subjective well-being in multiple domains (Lyubomirsky, King, Diener, 2005). Initial intervention efforts that have targeted various positive psychology constructs have yielded promising results (Bolier et al., 2013; Sin & Lyubomirsky, 2009). Most notably, research has found strong promise that interventions that strive to help individuals use personal strengths in novel ways promote and sustain high levels of happiness over time (Seligman, Steen, Park, & Peterson, 2005). Thus, interventions that help to cultivate strengths and celebrate individual differences in ability can promote positive growth and sustainment in the pleasures of life and work-related tasks. However, strength-based interventions that target teachers as participants have not been explored.

Purpose of the Current Study

The purpose of this study was to examine the effects of implementing a strengths-based intervention (Seligman, Steen, Park, & Peterson, 2005) to determine its overall impact on teacher well-being within the school context. Research continues to utilize a deficits approach focusing on negative aspects of mental health for teachers including burnout (e.g., emotional exhaustion, depersonalization, and low personal accomplishment; Maslach, 1998) and work-related stress (Hills & Robinson, 2010). Positive psychology provides an alternative perspective, and embraces a strengths-based approach to determine what is going right in one's life and how overall well-being can be improved. In particular, Seligman and colleagues' (2005) *Utilizing Signature Strengths in New Ways* positive psychology intervention was utilized to determine its overall effects on teachers' happiness. The strengths-based approach suggests that each individual has his or her own unique combination of character strengths that can be utilized within a variety of

life domains (work, home, relationships, etc.). It is theorized that *discovering* “signature strengths” and *applying* such character strengths to one’s career can improve overall engagement and satisfaction with work and life (Fisher, 2010). Beyond positive effects on well-being indicators (i.e., aspects of subjective well-being), the study also explored the intervention’s effects on other secondary outcomes that include negative dimensions of teachers’ mental health including stress and burnout. This study was conducted to answer the following research questions below:

Research Questions

1. To what extent does a strengths-based intervention called *Utilizing Signature Strengths in New Ways* exert a positive impact on elementary school teachers’ subjective well-being, as indicated by:
 - i. Global life satisfaction
 - ii. Positive affect
 - iii. Negative affect?
2. To what extent does *Utilizing Signature Strengths in New Ways* exert a positive impact on secondary outcomes, as indicated by:
 - i. Domains-specific satisfaction, in particular work satisfaction
 - ii. Negative dimensions of mental health, including:
 - a. Perceived Stress
 - b. Occupational burnout
 - iii. Psychological well-being (flourishing in life)?
3. How do elementary teachers perceive *Utilizing Signature Strengths in New Ways* appropriateness, efficacy, and feasibility?

- i. Enacted implementation schedule (duration, dose)
- ii. Elementary teachers' perceptions of intervention acceptability?

Significance of the Study

To date, there are no studies that have investigated the efficacy of a positive psychology strengths-based intervention for teacher participants. This study provided preliminary answers to whether such an intervention is efficacious for teachers especially within the school context. Additionally, the study adds to the growing literature of positive psychology interventions providing information on the value and impact they provide in promoting overall well-being which is currently sparse in the literature (Diener, 2012; Fisher, 2010). Additionally, the study is the first of its kind to implement a novel methodological approach (i.e., single-case design) that may influence how positive psychology interventions are explored in the future. Most notably, this study promotes further discussion of the importance of promoting teacher well-being through demonstrating positive effects of intervention on teacher well-being through a strengths-based approach implemented in the school context.

Definition of Key Terms

Subjective well-being. The scientific term for happiness that refers to how individuals experience the quality of their lives. The construct incorporates three distinct components that include *life satisfaction, positive affect, and negative affect* (Diener, Oishi, & Lucas, 2009). Life satisfaction is defined as the cognitive appraisal of one's life on a whole, or satisfaction in specific domains of life, including family, friends, and work (Diener, 2000; Diener et al., 2009). Positive and negative affect refer to the emotional experiences of life that reflect pleasant emotions (e.g., enthusiasm, joy, elation, etc.) or experiences of distress (e.g., anger, guilt, hopelessness, fear, and disgust).

Character strengths. Defined as universal moral traits, character strengths refer to the 24 individual positive assets that are classified into six specific categories of overarching virtues (Park, Peterson, & Seligman, 2004). It is posited that each individual demonstrates a unique profile of strengths that includes signature strengths that are most often displayed by the individual and related to their overall well-being.

Positive psychology interventions (PPIs). PPIs are strategies/activities designed to enhance levels of subjective well-being and other indicators of positive functioning. Each intervention focuses on manipulating a specific construct within the positive psychology literature including character strengths, hope, gratitude, optimism, and savoring.

Perceived stress. Perceived stress is defined as the degree to which an individual considers his or her life to be stressful due to unpredictable, uncontrollable, and overloaded circumstances and experiences. (Cohan, Kamarck, & Mermelstein, 1983; Cohen & Williamson, 1988). The stress experienced by teachers has been further delineated as the negative and unpleasant emotions experienced by an educator due to some aspect of work as a teacher (e.g., maintaining classroom management, completing workload demands, formal teacher observations and evaluations; Kyriacou, 2001). The stress that teachers experience is unique to each individual and related to an interaction of personal coping strategies, personality traits, perceptions of the environment, and the current state of the surrounding context such as the school climate.

Teacher burnout. The chronic stress that teachers experience over time can lead to the development of teacher burnout. The psychological syndrome encompasses three distinct components including emotional exhaustion, depersonalization, and personal accomplishment

(Maslach, 1999). *Emotional exhaustion* is defined as the feelings of fatigue and intense tiredness a teacher feels as emotional energy is depleted due to work demands and frustrations towards the work place. *Depersonalization* is considered the negative attitudes and indifferent feelings that educators may develop towards their students often exhibited by distancing themselves both physically and emotionally from their students. The final aspect of teacher burnout includes low feelings of *personal accomplishment* in which teachers feel as though they are no longer contributing towards their students' learning and development in the classroom context.

Flourishing. An individual's perceived success based on personal relationships, purpose and meaning in life, self-esteem, and personal optimism. The construct is in line with Seligman's (2011) PERMA theory, a broadened conceptualization of well-being which encompasses five distinct elements including: positive emotion (i.e., pleasant feelings towards the past, present, and future), engagement (i.e., experience of flow or full immersion in actions and behaviors that are well-aligned with personal talents and strengths), relationships (i.e., building of a strong network of connections and people including family, friends, and coworkers), meaning (i.e., dedication and striving towards something perceived as larger than oneself), and accomplishment (i.e., feeling personal success and achievement due to the completion of established goals).

Limitations

The following study has noted limitations that must be considered. First, the information gathered from participants is strictly based on self-report data. It is possible that participants may have been inclined to respond in a socially desirable manner or in a way they feel the researcher desires. Second, the purposefully small sample size may limit the overall amount of data to determine treatment effects. Third, the generalizability of the sample is limited to a specific population (i.e., elementary school teachers). A fourth limitation involves the method of

selecting intervention start points before establishing stable baselines. These are discussed further in Chapter 5.

Hypotheses

Regarding research question 1, it was hypothesized that elementary teachers' participation in the teacher-focused, strengths-based intervention would significantly improve indicators of subjective well-being. Specifically, it was hypothesized that teachers would exhibit significantly higher levels of life satisfaction and positive affect, as well as significantly lower levels of negative affect at post-intervention. It was also hypothesized that such gains would either remain or further increase one-month following the intervention. These hypotheses were based on outcomes demonstrated within the positive psychology literature presented within the following chapter.

Regarding research question 2, it was hypothesized that teachers' participation in the teacher-focused, strengths-based intervention would demonstrate positive improvements on secondary indicators of teachers' well-being. Particularly, it was hypothesized that teachers would exhibit significant increases in work satisfaction, flourishing, and feelings of personal accomplishment at post-intervention that would sustain at one-month follow-up. It was also hypothesized that significant decreases on indicators of mental health, including perceived stress and burnout (i.e., emotional exhaustion and depersonalization) would be evident.

Regarding research question 3, the intervention was expected to be implemented over the course of four 30 – 60 minute individual meetings during the school day. With respect to anticipated acceptability, it was anticipated that teacher would find the intervention enjoyable, valuable, and pertinent to their personal level of happiness.

Chapter 2

Review of the Literature

Happiness is a valued aspiration in most cultures (Diener, 2000) and has garnered much attention in the recent advances of the positive psychology movement. Traditional psychology has disproportionately focused on the negative aspects of the human condition; yet, an emphasis on positive emotions and personal virtues as a method to counteract human deficits and build upon human strengths continues to emerge in the literature (Seligman & Csikszentmihalyi, 2000; Gilman, Huebner, & Furlong, 2014). Unfortunately, a similar deficits approach exists within the education system that seeks to address weaknesses rather than foster a positive learning environment (Lopez & Snyder, 2009). Although literature on positive schooling experiences continues to emerge, more research has focused on students with minimal consideration for educators (Miller, Nickerson, Chafouleas, & Osborne, 2008). This is disconcerting as today's teachers continue to confront adversities that challenge their wellness and overall willingness to pursue the profession. This chapter describes the critical role of teachers within the educational process, as well as the evolving perspective of teacher well-being. A review of the positive psychology literature is presented that focuses on the goals of positive psychology, discussion of positive indicators of mental health, and empirical support for positive psychology interventions to increase subjective well-being for teachers within the school context. Strength-based interventions are also reviewed based on their strong empirical support in sustaining positive indicators of well-being overtime.

Critical Role of Teachers

Teachers are logically an integral piece of the educational process. Within recent decades, determining the factors that contribute to teacher quality has become even more imperative given the reform efforts towards higher school accountability established through the Elementary and Secondary Education Act of 2001 and No Child Left Behind (NCLB; 2002). Such reform has called for an increase in ‘highly qualified’ educators who meet criteria of full certification, have earned a bachelor’s degree, and demonstrate competence in the instructional curriculum.

Although research demonstrates that teacher quality matters to student achievement (Givvin, Hiebert, Jacobs, Hollingsworth, & Gallimore, 2005), there continues to be a lack of consensus in what specific factors contribute to teacher quality (Akiba, LeTendre, & Scribner, 2007). Goe’s (2007) review of the literature provides a consolidated framework defining teacher quality through specific qualifications, characteristics, practices, and outcomes that predicts high student achievement (i.e., standardized national test scores). Goe notes that a new definition of teacher quality must not only take into account specific qualifications on paper (e.g., certification), but must also consider teacher effectiveness in producing competent learners.

It has been reported that 7 to 21 percent of the variance in student achievement gains are based on teacher effects alone (Nye, Konstantopoulos, & Hedges, 2004) and that such values are associated with an effect size of $d = 0.32$ (i.e., one standard deviation change in teacher effectiveness increases student achievement by one-third of a standard deviation; Nye et al., 2004). Additional research has found that instructional experiences gained in the first years of teaching are the most imperative (Clotfelter, Ladd, & Vigdor, 2007; Harris & Sass, 2011) and that teachers who are better equipped to communicate with students through verbal proficiency predict higher student achievement (Darling-Hammond, 2000; Wayne & Youngs, 2003). Studies

exploring elements of quality of teaching (e.g., control of classroom, promotion of positive classroom climate, adept understanding of academic subject) of Nationally Board Certified (NBC) teachers found that such factors contribute to a richer understanding of the content and high student engagement (Hattie & Clinton, 2008; Smith, Baker, Hattie, & Bond, 2008). Cornelius-White's (2007) meta-analysis exploring teacher-student relationships found that teachers demonstrating person-centered qualities (e.g., empathy, warmth, encouragement) promoted higher student achievement. In contrast, Qu and Becker's (2003) meta-analysis exploring the quality of teachers' training programs demonstrated insignificant effect sizes.

In contrast to the growing literature on teacher factors that contribute to *student* academic performance, less attention has been paid to predictors of health and well-being among *teachers* (Day & Gu, 2014). This is surprising given the high teacher turnover and attrition rates currently evident in the education field. Retention of early teachers is a major concern in many countries including the United States (Scheopner, 2010). It has been suggested that approximately one in five teachers (20% of the teaching population) leave within the first few years of teaching (Darling-Hammond & Sykes, 2003; Guarino, Satibanez, & Daley, 2006), and this rate dramatically increases when teachers are exposed to under-resourced and impoverished school communities (Boser, 2000; Henke, Chen, Geis, & Knepper, 2000). Longitudinal research has found that a majority of teachers who leave the field express that continued frustration and a sense of failure was instrumental in their decision to leave the field (Johnson & Birkeland, 2003). High attrition rates may also be a result of the continuous challenges and setbacks faced by educators, which eventually contribute to feelings of demoralization (Kane, Rockoff, & Staiger, 2006). Such factors can have far-reaching effects including negative impacts on teacher interactions and school climate (Guin, 2004). Teacher attrition presents as an economic burden to

a school community that must recruit and acclimate new teachers who may be far less experienced (Darling-Hammond & Skyes, 2003). Little research has explored the impact of teacher attrition on student achievement. In an exception, Ronfeldt, Loeb, and Wyckoff (2013) explored the ramifications of teacher turnover on approximately 850,000 students in New York elementary schools over the course of eight academic years. They found that continuous turnover lowered students' academic performance in language arts and math, especially for low-performing and African American students. Despite such deleterious consequences of teacher attrition, research continues to provide little evidence in how to intervene. While policies promote the implementation of incentives such as merit pay to retain teachers, the current study will test a strategy to improve teachers' emotional well-being, which may prove to have an enduring impact including reduced teacher stress and ultimate burnout and positive impacts on student outcomes.

The Evolving Perspective of Teacher Well-Being

As suggested above, the “wellness” of teachers can be defined in terms of their professional accomplishments such as student outcomes, or in relation to their perceived emotional well-being. The latter has historically been examined in a problem-focused manner with more attention to burnout and emotional distress, as compared to positive indicators of thriving or satisfaction.

Teacher stress and burnout. As reflected in psychology's traditional focus on remediating weaknesses and ameliorating psychopathology, there is a tremendous amount of literature that addresses negative aspects of teachers' mental health including job-related stress and burnout. Kyriacou (2001) defines teacher stress “as the experiences by a teacher of unpleasant, negative emotions, such as anger, anxiety, tension, frustration, and/or depression,

resulting from some aspect of work as a teacher” (p.28). Some of the main sources of teacher stress include instructing unmotivated students, maintaining classroom discipline, keeping up with workload demands and time pressures, being exposed to continuous change and evaluation by others, and experiencing poor working conditions (Kyriacou, 2001). However, the research suggests that stress is unique to each individual and dependent on the multifaceted interaction between personal characteristics (i.e., personality, skills, and condition), perception of situations, and the impact of the surrounding environment (Kyraicou, 2001). Additionally, coping mechanisms and personality traits can also moderate the relationship between how a stressful situation is perceived and a teacher’s emotional response and personal experiences of burnout (Montgomery & Rupp, 2005).

The experience of chronic stress over time can ultimately lead to teacher burnout. Maslach (1999) defined teacher burnout as a psychological syndrome exemplified by three specific symptoms: emotional exhaustion, depersonalization, and reduced personal accomplishment. Emotional exhaustion is considered to be the central component of teacher burnout (Maslach, Leiter, & Schaufeli, 2008) and most tied to occupational stressors (Maslach, Schaufeli, & Leiter, 2001). It is often defined in the literature as a depletion of one’s mental energy and individual strain that is exemplified by feelings of dissatisfaction and frustration. Depersonalization often refers to the detachment of interpersonal work relationships, while reduced accomplishment represents the self-evaluative component and is characterized by an individual’s devaluing of his or her work. Burnout is often measured by Maslach’s Burnout Inventory (Maslach & Jackson, 1981) that specifically evaluates these three distinct constructs.

Although burnout is not a direct effect of continuous exposure to stressful circumstances, it is typically mediated through various active and passive coping mechanisms that have

accumulated into positive and negative experiences (Montgomery & Rupp, 2005). Two distinct forms of coping mechanisms can include problem-focused coping and emotion-focused coping (Admiraal, Korthagen, & Wubbels, 2000). Problem-focused coping entails developing a set of strategic steps in identifying the problem, establishing alternative methods to overcome the problem, and setting a course of action that is most reasonable and acceptable to the individual. In contrast, emotion-focused coping involves utilizing positive reappraisal behavior or implementing defense mechanisms including avoidance and distancing oneself from the ensuing problem. Montgomery and Rupp's (2005) meta-analysis found that teachers' emotional responses that included positively oriented variables (e.g., hope, enjoyment, or passion) and negatively oriented responses (e.g., anxiety, frustration, and depression) influence the extent to which burnout is experienced. Most notably, the researchers found that individual differences in emotional-regulation skills provide a quality indicator of how teacher's experience stress.

According to the social-cognitive perspective (Lazarus & Folkman, 1984), stress occurs when individuals perceive situations as overwhelming to the point of disregarding other personal resources to address the demands. This can often lead individuals to emotional distress that hinders their ability to utilize effective coping strategies to regulate stress levels. Research is continuing to explore educators' emotional regulation and competence within the classroom environment. Jennings and Greenberg's (2009) Prosocial Classroom Model suggest that providing teachers the resources to cope with the stressful demands in the classroom may ultimately promote positive outcomes for teachers and students including increases in academic achievement. The researchers emphasize that "socially and emotionally competent teachers set the tone of the classroom by developing supportive and encouraging relationships with their students [and] designing lessons that build on student strengths and abilities" (p. 492). They note

that teachers who experience chronic emotional exhaustion endorse a more caustic environment that limits students' performance. Jennings and Greenberg (2009) highlight that the current state of education suggests that educators should already have the prerequisite skills of social and emotional competence; yet, due to the highly demanding and ever-changing state of the field, such expectations are unreasonable. Although there continues to be minimal research on how to support teachers in this capacity, emerging research is beginning to focus on a more positive perspective.

Teacher well-being. Although a great deal of literature underscores the stressful nature of the teaching profession (Goddard & Foster, 2001; Tait, 2008) and the multiple repercussions of such stress (i.e., “burnout cascade” Jennings & Greenberg, 2009, p. 492), there is little understanding of what facilitates teacher's ability to flourish in the workplace. Furthermore, there is a lack of consensus in how to operationalize teacher well-being. A variety of terms have been advanced in past research in hopes of promoting a more positive perspective. Pertinent constructs studied include *teacher self-efficacy* (i.e., “judgment of capability to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated”; Tschannen-Moran, Woolfolk Hoy, 2001, p. 783), *occupational well-being* (i.e., low levels of exhaustion and high levels of job satisfaction; Klusmann, Kunter, Trautwein, Lüdtke, Baumert, 2008; Soini, Pyhältö, & Pietarinen, 2010), and *academic optimism* (i.e., teacher's confidence in affecting change in student performance through student and parental trust and belief in personal capacity; Beard, Hoy, Woolfolk-Hoy, 2010; Woolfolk-Hoy, Hoy, & Kurz, 2008). Traditional measures of teacher well-being have also focused on *job-related satisfaction* (Parker & Martin, 2009; Pillay, Goddard, & Wilss, 2005) defined as the “perception of fulfillment derived from day-to-day work activities (Klassen & Chiu, 2010, p. 742).

Although such constructs provide a glimpse of what may be going well within the teaching profession, such factors fall short in providing a comprehensive depiction of teacher's complete mental health. A more progressive description of mental health accounts for more than just the absence of psychopathology but also recognizes other positive indicators of health including the subjective experience of happiness and overall life satisfaction including work-related values (Diener, 2000). As an example of such a comprehensive view, the World Health Organization (WHO; 2004) defines mental health as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her own community" (p. 12). Specific to educators, Aelterman, Engels, Van Petegem, and Verhaeghe (2007) characterized teacher well-being as "a positive emotional state which is the result of harmony between the sum of specific environmental factors on the one hand, and the personal needs and expectations of teachers on the other hand" (p. 286).

Relevance of teacher well-being to student outcomes. Day and Gu (2014) highlight that if teachers are not provided with adequate support in their personal well-being, it is unlikely they will provide for the academic, behavioral, and social-emotional needs of their students. There is evidence to suggest indicators of well-being, as previously described, promote better student outcomes including high student achievement. Duckworth, Quinn, and Seligman (2009) explored the relationships between teacher effectiveness (i.e., academic gains of students) and indicators of teacher well-being that included measures of optimistic explanatory style, grit (i.e., innate perseverance), and overall life satisfaction. The sample included novice educators within the Teach for America (TFA) program, most of whom are elite college graduates electing to teach students in under-resourced environments. Duckworth et al. (2009) found that higher levels of

teacher grit and life satisfaction predicted student academic performance at the end of the year. Generalizability of these findings is limited by the unique sample features. Nevertheless, the findings provide support for the notion that supporting teacher's well-being can have far-reaching implications beyond teachers, and extend to positive academic achievement among students. Notably, this study was conducted by researchers who identify with the newer discipline of "positive psychology," which is helping to advance the organized study of wellness within the work place and school context.

Positive Psychology

The field of positive psychology has emerged as a significant contributor in the exploration and analysis of affective emotions, individual characteristics, and environmental circumstances that lead to positive outcomes in the human condition (Gable & Haidt, 2005; Seligman & Csikszentmihalyi, 2000). Within the last two decades, the field has supported the movement towards building upon the positive and best human qualities rather than focusing on the worst things in life (Seligman, 2002). Historically, psychology has focused on the pathology and the absence of mental health through a deficits approach determining what human flaws exist and how to remedy them. In that traditional approach, health has been viewed more as the absence of illness, rather than the existence of personal wellness (Fava & Ruini, 2003). Rather than embracing a disease-focused model, the field of positive psychology seeks to determine what individual, community, and societal features contribute to one's happiness and fulfillment of life (Seligman & Csikszentmihalyi, 2000). In sum, positive psychology calls for less emphasis on psychological deficits and more consideration of advancing well-being and optimal functioning in daily life through building upon one's strengths and positive emotions.

Key constructs in positive psychology. The positive psychology umbrella extends to include research focused on positive outcomes (e.g., happiness, also referred to as subjective well-being) as well as mechanisms for producing such positive outcomes. Commonly-studied mechanisms (also known as predictors or correlates of happiness) are reflected in those constructs included in Seligman's (2002) framework for increasing happiness through intentional activities that cultivate positive mindsets about one's past, present, and future. Intentional activities pertinent to the past include expressions of gratitude. Achieving happiness in one's present includes seeking pleasures (e.g., situations associated with positive emotions) and gratifications (e.g., through identifying character strengths and using them in new ways). Future-focused constructs include learned optimism and hope. Activities intended to purposefully increase happiness through targeting these constructs are referred to as Positive Psychology Interventions (PPIs), discussed in detail in a subsequent section. PPIs are relevant in that current frameworks advanced to understand differences in people's happiness content that happiness is 50% genetically determined, 10% environmentally caused, and 40% potentially modifiable by intentional happiness-enhancing activities and practices (Lyubomirsky, Sheldon, & Schkade, 2005). PPIs target the 40% of variance associated with purposeful activities.

Subjective well-being. In contrast to a eudemonic view of happiness which prioritizes what is virtuous, morally right, true to one's self, meaningful, and/or growth producing (Ryan & Deci, 2001; Ryff & Singer, 2008), hedonic views of happiness are concerned with pleasant feelings and favorable judgments, and exemplified by research on subjective well-being (Schimmack, 2008). Subjective well-being (SWB) is the scientific term for happiness that is one of the key outcomes studied within positive psychology. It can be viewed as an all-encompassing term that highlights the level of well-being an individual experiences due to their subjective

appraisals of the outside world. Such evaluations can be both positive and negative and incorporate multiple domains of one's life (Diener, 2000). Diener, Oishi, and Lucas (2009) note that individuals continually evaluate life events, circumstances, and themselves through a positive or negative lens which contributes to high or low levels of subjective well-being. The construct encompasses three distinct components including: life satisfaction (LS), positive affect (PA), and negative affect (NA; Diener, 2000), as well as satisfaction with specific life domains (e.g., satisfaction with work). Each component must be understood based on its own specific features (Diener, Suh, Lucas, & Smith, 1999); yet, combined, these elements correlate into a higher order factor.

Subjective well-being can best be understood as an individual's cognitive and affective evaluation of life (Diener, 2000). *Life satisfaction* is regarded as the cognitive component of subjective well-being (Diener, 2000; Diener et al., 2009; Schimmack, 2008) that reflects a global judgment of life overall at a specific point in time. Life satisfaction can be measured at a global level or further broken down into distinct elements of life domains (e.g., work, family, friends, love, and self) which capture a more tapered perception of one's quality of life (Diener, 2000). Both *positive* and *negative affect* are considered the hedonic components of subjective well-being and capture the emotional underpinnings of the construct. Often capturing a more momentary and immediate response, both the positive and negative affect represent both the pleasant and negative emotions that are experienced in everyday life. Overall, subjective well-being is a necessary requisite for mental health; yet, it is not equivalent to complete mental health that is often confused in the literature (Diener, 2000). Additionally, research has shown that subjective well-being demonstrates stability over time (Eid & Diener, 2004), but can be susceptible to change through exposure of agreeable and undesirable life events.

While early research has focused on the sources contributing to subjective well-being, current research targets the consequences specifically in determining if high levels of subjective well-being equate to positive human functioning. High levels of well-being and life satisfaction significantly improve outcomes in many domains of life including health, work, personal earnings, and social relationships (Diener & Ryan, 2009). Most notably, high levels of subjective well-being tend to foster high levels of success within the workplace. Research has continued to find that individuals considered to be happy tend to be more productive and fruitful contributors to the work force (Oishi, 2012). Individuals with higher levels of subjective well-being tend to demonstrate a high levels of satisfaction with work (Lyubomirsky, King, & Diener, 2005) which equates to higher levels of productivity and overall higher quality of work (Staw, Sutton, & Pelled, 1994) and organizational citizenship (Diener & Biswas-Diener, 2008). Further benefits of high subjective well-being also include better health outcomes and reduced physical problems (Roysamb et al., 2003). These individuals also possess stronger immune systems and exhibit healthier lifestyles (Diener & Biswas-Diener, 2008) which can buffer the unfavorable impact of stress. High levels of subjective well-being have also shown to reduce the risk of developing mental health symptoms (Keyes, Myers, & Kendler, 2010; Wood & Joseph, 2010). As exhibited in the research, high levels of subjective well-being can help individuals achieve productive and efficacious functioning in life.

To measure SWB, researchers most often administer surveys to individuals and request appraisals of their global assessment of life as well as satisfaction in various domains (Kim-Prieto, Diener, Tamir, Scollon, Diener, 2013). Less common approaches include attempts to compile past experiences (past evaluations of lives and emotional experiences within the last week, month, specific timeframes) or gauge emotional reactions at a specific time (for instance,

via Experience Sampling Method [ESM]). Kim-Prieto and colleagues (2013) emphasize that SWB appraisals follow a 4-stage temporal sequence: (1) life circumstances and events, (2) affective reactions to those events, (3) recall of one's reactions, and (4) global evaluative judgment about one's life. Thus, survey methodology requiring individuals to produce overall estimates of perceived quality of life most closely assess the distal evaluations of proximal experiences. Surveys of SWB most commonly focus on life satisfaction, either globally or within domains of life relevant to one's developmental stage (e.g., for youth- friends, family, school, etc.; for adults- work, health, family, economic resources, etc.). Diener (2006) recommends that national indicators of citizen well-being should include routine collection of data on indicators of subjective well-being and ill-being.

Positive emotions. Fredrickson's (2001) broaden and build theory suggests that positive emotions serve as indicators of thriving and include elements of joy, contentment, love, interest, and pride that serve to expand an individual's *momentary thought-action repertoires*. This, in a sense, allows an individual to build their enduring personal resources and expand their perspective on possible available opportunities. The theory emphasizes that positive emotions demonstrate a complementary effect that allow individuals to widen the thoughts and actions that come to mind. Such broadening allows an individual to become more willing to explore, savor personal experiences, and envision possible achievements that continuous negative emotions serve to distort or limit. Fredrickson (2001) emphasizes that negative emotions including anxiety, anger, sadness, and despair serve an adaptive role in time of survival and threatening situations. However, such emotions limit the capacity of creativity and happiness that allow an individual to flourish. Throughout this continuous 'upward spiraling' effect, an individual accumulates resources that serve to protect during periods of excessive stress. Fredrickson (2001) suggests

that exposure to positive emotions can buffer the lingering effects that negative emotions serve to accrue over time. Additionally, positive emotions serve to improve one's psychological well-being and physical health by promoting experiences of positive emotions when coping is necessary and negative emotions are aversive. Over time, the continuous exposure of positive emotions will lead to ultimate resiliency and well-being. As Garland, Fredrickson, Kring, Johnson, Meyer, and Penn (2010) note, "positive emotions expand people's mindset in ways that little-by-little reshape who they are" (p. 850).

Gratitude. The literature conceptualizes the construct of gratitude in multiple ways based on varying perspectives of how the trait manifests in daily life (Wood, Froh, & Geraghty, 2010). Gratitude can be understood as an emotion that transpires as a response to the kind and generous acts of others (McCullough, Kilpatrick, Emmons, & Larson, 2001); however, other researchers such as Emmons and McCullough (2003) state that "gratitude stems from the perception of a positive personal outcome, not necessarily deserved or earned, that is due to the actions of another person" (p. 377). Gratitude is a common target of positive psychology interventions intended to increase subjective well-being, as described later in Table 1.

Kindness. Viewed as a character strength, kindness consists of three specific components including motivation to be kind to others, the ability to recognize kindness in others, and the employment of kind behaviors within daily life (Otake, Shimai, Tanaka-Matsumi, Otsui, & Fredrickson, 2006). Kindness is a common target of positive psychology interventions intended to increase subjective well-being, as described later in Table 1.

Optimism. Within the literature, optimism is viewed as both a generalized expectancy and cognitive explanatory style. According to Boman and Mergler (2014), optimism as a generalized expectancy represents the propensity to expect positive outcomes and believe that

positive results will outweigh negative results. Based on the theoretical perspectives of both learned helplessness and attribution theory, Seligman (1991) emerged with a divergent perspective of optimism that illustrates the construct within a cognitive explanatory style. Within this representation, optimist individuals attribute positive elements of life as permanent, permanent, and pervasive (Boman & Mergler, 2014; Seligman, 1991). Optimism, as defined under both contexts, have demonstrated reductions in symptoms of psychopathology and improvements in overall well-being (Boman & Mergler, 2014).

Hope. Based on goal-directed thinking, hope incorporates the ability to conceptualize goals, develop strategies to attain such goals, and maintain the sustainability of utilizing such strategies in order to achieve goal attainment (Marques, Lopez, Rose, & Robinson, 2014). Additionally, individuals possessing high-hope tend to have more durable pathways and perseverant thinking towards goal attainment when compared to low-hope individuals (Marques et al., 2014; Synder, 2002). Research has shown that hope has a significant and positive relationship to indicators of well-being including global life satisfaction and mental health (Marques et al., 2014) and is malleable to change through interventions that increase individual's goal setting behaviors (as summarized in Table 1).

Mindfulness. Mindfulness originated in the Buddhist meditative traditions, as well as other Eastern religious traditions including Hinduism, Islam, and Judaism (Albrecht, Albrecht, & Cohen, 2012). The more modern perspective of the psychological construct evolved from the work of Jon Kabat-Zinn (2003) and other colleagues who reinstated mindfulness as a stress-reducing intervention that could be learned in a more secular sense. Kabat-Zinn (1994) perceives mindfulness as an inherent quality defining the construct as “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally (p. 4). Shapiro, Carlson, Astin, &

Freedman (2006) embraced this definition when constructing three specific axioms that embody the practice which include intention, attention, and attitude (Albrecht et al., 2012). Mindfulness is an increasingly frequent target of positive psychology interventions intended to increase subjective well-being, as described later in the description of Mindfulness interventions.

Character strengths. Lyubomirsky, Sheldon, & Schkade (2005) propose that there are three main factors that contribute to an individual's overall happiness including (a) genetic components, (b) circumstantial contributors (i.e., education), and (c) intentional activities. Deliberate interventions that target these activities and practices (i.e., behaviors, cognitions, volitional) encompass the PPI framework. The positive psychology intervention with the strongest support for lasting gains in adult's subjective well-being targets the development of individual character strengths. Character strengths refer to a set of 24 individual positive traits (e.g., authenticity, fairness, hope, and creativity) within six broader classes of virtues (e.g., wisdom and knowledge, courage, humanity, justice, temperance, and transcendence). Each strength is assigned to one of the high-ordered virtues (e.g., humanity can be achieved by displaying kindness), and it is proposed that each individual encompasses a unique profile of signature strengths that contribute to one's daily life (Peterson & Seligman, 2004). A list of the Peterson & Seligman's (2004) 24 character strengths and classified virtues can be found in Appendix A. Through an extensive review of the literature, Peterson and Seligman (2004) compiled the set of virtues and strengths into a classification system known as the Values-In-Action (VIA) Strengths Classification. The most well-known instrument utilized for the assessment of character strengths is the Values in Action Inventory of Strengths (VIA-IS) that is a 240-item self-report questionnaire that can be completed online and through paper-pencil format.

Research has found that some positive traits more than others predict overall happiness. The five positive traits that most often demonstrate a strong relationship with life satisfaction and overall well-being include love, curiosity, zest, hope, and gratitude (Park, Peterson, & Seligman, 2004), while the most commonly endorsed strengths include kindness, authenticity, open-mindedness, fairness, and gratitude (Peterson & Seligman, 2004). Research has also shown that character strengths can serve as a safeguard from exterior stressors and allow individuals to flourish (Park & Peterson, 2009).

Overall, the positive psychology constructs (e.g., gratitude, optimism, kindness, hope, mindfulness, character strengths) described above have demonstrated clear connections with indicators of quality mental health including increases in subjective well-being, positive affect, and reduced psychopathology. Each has been targeted for change through conceptualized interventions that will be reviewed further within the literature review. The next section illustrates how positive psychology has been conceptualized and incorporated within the work place including both the organizational and individual level.

Positive Psychology Applied to the Workplace

Indicators of relevance. As the field of positive psychology continues to expand with its benefits becoming ever more recognized, other fields have begun to adapt important elements of the constructs discussed above into both research and practice. This is most evident in the workplace as growing research continues to explore how increases in worker happiness can benefit not only the individual but the organization as a whole. Such exploration has established two key fields of research including *positive organizational scholarship* (Cameron, Dutton, & Quinn, 2003) and *positive organizational behavior* (Luthans, 2002; Wright, 2003); however, multiple overlapping constructs encompassing such fields make them difficult to distinguish

(Fisher, 2010). Positive organizational scholarship has been defined as the “the study and application of positively oriented human resources strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvements in today’s workplace” (Luthans, 2002; pg. 698), while positive organizational behavior is “the study of that which is positive, flourishing, and life-giving in organizations” (Cameron & Caza, 2004; p. 731). Emerging from all these fields of research, Luthans and other researchers have established the construct of psychological capital, or PsyCap, that can be specifically targeted to increase work performance. The construct of PsyCap is made up of four specific components of the positive psychology literature including optimism, self-efficacy, hope, and resilience (Youssef & Luthans, 2007). Newman, Ucbasaran, Zhu, & Hirst (2014) further clarified the term emphasizing that while “human capital is concerned with ‘what you know’ and social capital is concerned with ‘who you know’, [while] PsyCap is concerned with ‘who you are’ and ‘who are you becoming.’”

Although workplace happiness emulates that of positive psychology’s focus on affect, pleasant feelings, and well-being, the majority of organizational literature has targeted the construct of job satisfaction which contains both cognitive and affective components (Fisher, 2010). Job satisfaction is often characterized as an individual’s attitude towards their occupational work and environment and is recognized as a stable construct. Research suggests that specific personality traits including positive and negative affect as well as specific genetic components may account for this stability (Fisher, 2010). Alternatively, other researchers including Zelenski, Murphy, and Jenkins (2008) have suggested that measuring job satisfaction is much too narrow. Wright and Cropanzano (2004) emphasize that the relationship between happiness and productivity is stronger if happiness is operationalized more broadly than just job

satisfaction. Other constructs and measures used to target work-related happiness within research have included organizational commitment, job involvement, personal engagement, and states of flow and intrinsic motivation; however, measures of subjective well-being have been far less explored. More recently, researchers have focused on broadening indicators of work-related happiness including quality of work life, life satisfaction, as well as positive and negative affect. Such research as discussed within the next section has increased the support for the happy/productive worker thesis that emphasizes that “workers who are ‘happy’ with their work—however defined—should have higher job performance” (Wright, Cropanzano, & Bonett, 2007; p. 93). This theoretical perspective suggests that persons exhibiting higher levels of happiness (i.e., subjective well-being) are more inclined to take on responsibility within the workplace, work better with colleagues, and demonstrate optimism and confidence towards their profession (Cropanzano & Wright, 2001).

Links between positive indicators and worker outcomes. Research has established the link between worker happiness and positive outcomes at both the individual and organizational level. Job satisfaction has been negatively correlated with attrition and turnover, absenteeism, and inexpedient work behaviors (Fisher, 2010). Moreover, job satisfaction is negatively related to depression, anxiety, and burnout and has demonstrated positive impacts on physical health (Faragher, Cass, & Cooper, 2005). When measured as positive affect, happiness in workers also translates into higher salaries, better job performance, and increased camaraderie between coworkers (Boehm & Lyubomirsky, 2008). Although benefits of worker happiness are evident, such research is within its infancy stages with needed research in how happiness can be further stimulated within the workplace.

Avey, Wernsing, Luthans (2008) illustrated the benefits of positive mindsets in the workplace by showing that workers' PsyCap (comprised of hope, efficacy, optimism, and resilience) was related to positive emotions which, in turn, related to better attitudes (more engagement and less cynicism) and behaviors (better organizational citizenship and less deviance). Newman, Ucbasaran, Zhu, and Hirst (2014) synthesis of such literature on psychological capital indicated a host of positive outcomes, including enhanced job satisfaction, better quality of life at work and home, and more positive organizational behavior (a term Luthans [2002] advanced to measure performance in the workplace). The benefits of positive emotions manifest in task performance (particularly when rated subjectively versus assessed objectively) and organizational citizenship, and yield more influence than personality traits such as extraversion and neuroticism (Kaplan, Bradley, Luchman, & Haynes, 2009). In contrast, more frequent negative emotions related to worse organizational citizenship behaviors, as well as higher levels of withdrawal behaviors, counterproductive work behaviors, and occupational injury (Kaplan et al., 2009).

Recent research has also unveiled the impact that character strengths have within the work place. Peterson, Stephens, Park, Lee, and Seligman (2010) found that such character strengths as curiosity, gratitude, hope, zest, and spirituality were correlated with work satisfaction, while Peterson, Park, Hall, & Seligman (2009) found zest to be linked to higher levels of life- and work-satisfaction. Further research by Gander, Proyer, Ruch, & Wyss (2012) explored the relationships between strengths of character and work-related behaviors among a sample of 887 German adult women ($M = 43.28$; $SD = 8.55$). The researchers utilized the German adapted VIA-IS form (Ruch et al., 2010) and additional measures focused on different attitudes towards work (e.g., satisfaction with work, career ambitions, burnout) and coping

behaviors. Results indicated that strengths of zest, persistence, curiosity, love and hope were related to healthy work related behaviors with persistence and zest emerging as the most essential based on strong correlations between participants assigned to the ‘healthiest’ work type reporting high levels of both character strengths. Additionally, healthy-ambitious behaviors were related to most of the character strengths (i.e., 21 out of the 24) emphasizing that character strengths can be utilized to differentiate health work-related behaviors from burnout-type behaviors.

As noted by Gander et al. (2012), building character strengths in the workplace may have profound impacts on healthy work-related behaviors, in addition to increasing satisfaction and happiness outside of the work environment. Positive psychology researchers are currently exploring how various constructs within field (i.e., optimism, kindness, gratitude, character strengths) can be manipulated to increase individuals’ happiness, as well as other essential factors of human thriving. The following section provides a comprehensive overview of current positive psychology interventions that have been applied to adult populations and within the workplace. Further research is also provided that details the current state of positive psychology interventions applied within schools as workplaces specifically targeting the happiness of educators and other school-based personnel.

Positive Psychology Interventions

As research continues to demonstrate the profound impact and significant contributions of high levels of subjective well-being, interest in interventions to increase subjective well-being has increased in the recent decade. Treatment for mental health has traditionally attempted to alleviate symptoms of mental disorders; however, mental disorders cannot be recognized as the complete absence of mental illness (Bolier et al., 2013). To note, 20% of adults in the United

States report that they are far from flourishing (Keyes, 2002) and many are considered languishing without an apparent mental disorder (Fredrickson, 2008). However, intervention studies that target positive change and build personal strengths rather than remedying pathological deficits have only recently come to the forefront in research. The interventions have been termed positive psychology interventions (PPIs) in the literature and aim to improve an individual's overall wellness and most notably contribute to the improvement of subjective well-being. Sin and Lyubomirsky (2009) define PPIs as "treatment methods or intentional activities aimed at cultivating positive feelings, positive behaviors, or positive cognitions" (p. 467). Such interventions target specific positive psychology constructs and include counting blessings, setting personal goals, expressing gratitude, performing acts of kindness, and using personal strengths to enhance overall well-being and reduce mental health symptoms including depression (Seligman, Steen, Park, & Peterson, 2005).

Two recent meta-analyses have demonstrated the efficaciousness of PPIs specifically utilizing subjective well-being as an indicator of optimal functioning. Sin and Lyubomirsky's (2009) meta-analytical review found that PPIs can be effective in improving overall well-being ($r = 0.29$, Cohen's $d = 0.61$) and in reducing depressive symptoms ($r = 0.31$, Cohen's $d = 0.65$). However, a recent meta-analytical review conducted by Bolier and colleagues (2013) noted limitations to Sin and Lyubomirsky's (2009) study including the lack of clear inclusion criteria that allowed studies not developed within the framework to be incorporated into the analysis, as well as the omission of the potential effects of low quality studies that may possibly inflate the overall results. Noting these limitations, Bolier and colleagues (2013) conducted a more rigorous analysis of the available literature and examined moderating variables (type, duration, and quality of research design) that could impact the overall results. Overall results found that PPIs

significantly enhance subjective well-being; however effect sizes were in the small to moderate range with the mean effective size of 0.34 on subjective well-being. Most notably, both studies found that large effects were seen in individual interventions and face-to-face interactions as compared to small group and web-based methods.

Positive psychology interventions with community sample of adults. The vast majority of PPIs have targeted adult samples with most incorporating convenience samples that have consisted of undergraduate students. Such interventions have targeted a variety of constructs including gratitude, you at your best, hope, acts of kindness, character strengths, and positive psychotherapy. A summary of key features (e.g., measures sample description, outcomes) of these empirical studies that incorporated one or more PPIs are provided within Table 1 below.

Table 1

Empirical Evaluations of Positive Psychology Interventions

Author(s)	Description of the Activity	Measures	Sample	Duration	Key Findings
PPI: Gratitude					
Emmons and McCullough (2003)	<i>Counting One's Blessings</i> – Daily listing of items that one was grateful for	PANAS; physical symptom; two researcher developed global life appraisal items	<i>N</i> = 192 college students	10-weeks	Higher mean scores on global life appraisal items compared to control, but no effect on positive or negative affect
Sheldon and Lyubomirsky (2006)	Counting One's Blessing	PANAS	<i>N</i> = 67 college students	4-weeks	No effect on positive affect Decreases in negative affect
Senf and Liau (2013)	<i>Gratitude Visit</i> – Write and deliver a letter to one person whom you are grateful for (and	SHI & CES-D	<i>N</i> = 122 Malaysian college students	1-week	Significantly higher levels of happiness at post-intervention, but did not differ from

Table 1 (Continued)

Author(s)	Description of the Activity	Measures	Sample	Duration	Key Findings
Senf and Liao (2013)	<i>Gratitude Journals</i> – Daily: record three things for which you are thankful		<i>M</i> age = 20.3		control at one-month follow-up No effect on depression
Odou and Vella-Brodrick (2013)	Gratitude Journals	PANAS, WEM-WBS	<i>N</i> = 210 Australian adults <i>M</i> age = 34	1-week	No differences in overall well-being or positive affect Significant decreases in negative affect
PPI: You at Your Best					
Seligman, Steen, Park, and Peterson (2005)	Write about a time you were at your best and what personal strengths were demonstrated	SHI; CES-D	<i>N</i> = 411 adults	1-week	Significantly higher happiness and lower happiness at post-intervention
PPI: Acts of Kindness					
Lyubomirsky, Sheldon, and Schkade (2005)	Carry out 5 acts of kindness per week (two conditions: all in one day or spread out throughout the week)	Specific measures not provided	<i>N</i> = <i>Unknown</i>	6-weeks	Significant increase in well-being for condition that performed the acts all in one day No differences for condition that spread kind act out throughout the week
Otake et al. (2006)	Raise awareness of acts of kindness performed for others and daily record such acts	JSHS	<i>N</i> = 119 Japanese college students <i>M</i> age = 18.75	1-week	Significant increase in happiness for participants in intervention compared to control
PPI: Hope					
Sheldon and Lyubomirsky (2006)	<i>Best Possible Self</i> – Think and write about best and most ideal self within the future	PANAS	<i>N</i> = 67 college students	4-weeks	Significant increases in positive affect at post-intervention and follow-up

Table 1 (Continued)

Author(s)	Description of the Activity	Measures	Sample	Duration	Key Findings
Cheavans, Feldman, Gum, Michael, and Snyder (2006)	Establish measurable goals and identify methods in which to achieve such goals	CES-D; STAI; PIL	$N = 32$ adults M age = 49	2 sessions (8 hours each)	Significant increases in purpose in life. Significant decrease in anxiety. No significant difference in depression (but intervention condition showed larger decrease than other conditions)
Layous, Nelson, and Lyubomirsky (2013)	Wrote about 'best possible selves' with different domains (e.g., academic, social, career) for once a week (two conditions: in-person or online); Explored differences if activity was administered online vs. in-person and if the participant read a persuasive peer testimonial before taking part in the intervention	PANAS; Flow Scale; researcher developed measure of Needs Satisfaction	$N = 131$ introductory psychology students M age = 19.10	4 – weeks	Significantly higher increases in positive affect and flow in intervention group. No significant differences if received intervention online or in-person. Peer testimonial strengthened positive affect, relatedness, and flow outcomes.
Odou and Vella-Brodrick (2013)	Best Possible Self – Added components of accomplishing dreams within different life domains, and visualization of future aspirations	PANAS; WEM-WBS	$N = 210$ adults M age = 34	1 -week	No significant difference in overall well-being Significant decrease in negative affect
PPI: Character Strengths					
Seligman et al. (2005)	<i>Using Strengths in a New Way</i> – Completed VIA-IS	SHI; CES-D	$N = 411$ adults	1 - week	Significant increase in happiness and decreased

Table 1 (Continued)

Author(s)	Description of the Activity	Measures	Sample	Duration	Key Findings
	to identify top 5 signature strengths. Participants then directed to use one strength in a new and different way each day for a week.				depressive symptoms for up to six months with moderate effect size
Mitchell, Stanimirovic, Vella-Brodrick, and Brodrick (2010)	Session 1: Participants identified and ranked perceived strengths from list of 24 signature strengths. Directed to share how to identify strengths with a friend. Session 2: Instructed to practice using identified strengths for one week with examples provided online and record progress in online diary.	PWI-A; SWLS; PANAS; OTH; DASS-21	<i>N</i> = 160 adults; Australian residents, at least 18 years old; DASS subscale “severe” range <i>M</i> age = 37 years	3 - weeks	Significant increase in cognitive component of SWB up to 3-months. No effect on positive or negative affect. No support for reductions in pathology.
Mongrain and Anselmo-Matthews (2012)	Using Strengths in a New Way – Modeled after Seligman et al. (2005) design	SHI; CES-D	<i>N</i> = 344 <i>M</i> age = 33	1-week	Significant increase in happiness up to 6-months. No significant differences found on CES-D.
Senf & Liao (2013)	Using Strengths in a New Way – modeled after Seligman et al. (2005) design with two email reminders to ensure maintenance	SHI; CES-D; IPIP-PI	<i>N</i> = 122 Malaysian undergraduates <i>M</i> age = 20.3	1 - week	Significantly higher levels of happiness compared to control condition. Significant differences in depressive symptoms at 1-month follow-up. Extraversion was a significant moderator.

Table 1 (Continued)

Author(s)	Description of the Activity	Measures	Sample	Duration	Key Findings
PPI: Savoring					
Kurtz (2008)	Reflect on college experience (e.g., campus activities) for 10 mins daily	SHS	<i>N</i> = 77 college students	2-weeks	Significant increase in happiness from pre- to post-intervention
Hurley & Kwon (2012)	Psychoeducation in positive psychology; then record 3 positive events from the prior week and how they could have better savored their experiences; then savor those positive experiences over the next two weeks	PANAS; BDI-II	<i>N</i> = 193 college students <i>M</i> age = 19.48	2-weeks	No changes in positive affect compared to the control Significant decrease in negative affect and depression
PPI: Positive Psychotherapy					
Seligman et al. (2006)	Therapy included multiple PPIs (i.e., using signature strengths, counting blessings, writing a positive obituary, gratitude visit, active-constructive responding, savoring)	SWLS & BDI-II	<i>N</i> = 40 college students with mild to moderate depressive symptoms	6 weekly two-hour therapy sessions	Significant decrease in depression and increase in life satisfaction in intervention group. Outcomes maintained at 3-, 6, and 12-month follow-ups

Note. BDI-II = Beck Depression Inventory II (Beck et al., 1996); CES-D = Centre for Epidemiological Studies Depression Scale (Radloff, 1977); DASS-21 = Depression, Anxiety, Stress Scales (Lovibond & Lovibond, 1995); Flow scale (Csikszentmihalyi, 1990); JSHS = Japanese Subjective Happiness Scale (Shimai, Otake, Utsuki, & Lyubomirsky, 2004); IPIP-PI = International Item Personality Pool (Goldberg et al., 2006); Needs Satisfaction (Sheldon et al., 2001); PANAS = Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988); OTH = Orientations to Happiness (Peterson et al., 2005); PIL = Purpose in Life Test (Crumbaugh & Maholick, 1964); PWI-A = Personal Well-Being Index – Adult (IWG, 2006); SHI = Steen Happiness Index (Seligman et al., 2005); SHS = Subjective Happiness Scale (Lyubomirsky & Lepper, 1999); STAI = State-Trait Anxiety Inventory (Spielberger et al., 1983); SWLS = Satisfaction with Life Scale (Emmons, Larsen, & Griffen, 1985); WEM-WBS = Warwick-Edinburgh Mental Well-Being Scale (Tennant et al., 2007)

Positive psychology interventions in the workplace. A few additional PPIs have targeted samples of adults drawn mostly from employment settings. These interventions that

have targeted positive emotions (via loving kindness meditation) and psychological capital (i.e., PsyCap), as well as aimed to increase workers' resilience (i.e., ability utilize adaptive strategies in order to cope with challenges and maximize personal achievements) and overall wellness (i.e., support identification and application of personal strengths, focus on self-concordant goals, and cultivation of healthy work relationships). A summary of key features and findings of these studies that evaluated PPIS and are relevant to the workplace are provided within Table 2 below.

Table 2

<i>Empirical Evaluations of Positive Psychology Interventions in the Workplace</i>					
Author(s)	Description of the Activity	Measures	Sample	Duration	Key Findings
Loving Kindness Meditation					
Fredrickson, Cohn, Coffey, Pek, and Finkel (2008)	<i>Counting One's Blessings</i> – One week reporting emotions and time spent engaged in meditation, prayer, or solo spiritual each day. Received additional six 60-minute group loving kindness-meditation training and CD with guided meditation exercises with expectation to practice at least 5 days a week.	SWLS; mDES	<i>N</i> = 139 working adults	9-weeks	Significantly increased participants' positive emotions. No differences observed for negative emotions. Increased life satisfaction indirectly influenced by increased positive emotions impacted by time in meditation.
Cohn and Fredrickson (2010) – 15-month follow-up	Counting One's Blessing	SWLS; mDES	<i>N</i> = 95 working adults	DNA	Nearly a third continued to participate in meditation exercises. All participants maintained increases in life satisfaction gains.

Table 2 (Continued)

Author(s)	Description of the Activity	Measures	Sample	Duration	Key Findings
Psychological Capital					
Luthans, Avey, and Patera (2008)	Web-based training program to develop positive psychological capital within the workplace	PCQ	<i>N</i> = 364 working adults	Two 45-minute sessions	Significantly increase in reported psychological capital as compared to control group
Luthans, Avey, Avolio, and Peterson (2010)	Face-to-face intervention exploring growth of psychological capital based on the PsyCap intervention (PCI) model (e.g., promoting goal development, obstacle planning, building efficacy)	PCQ; Researcher developed performance measures	<i>N</i> = 80 managers	Two 45-minute sessions	Significantly higher levels of psychological capital compared to control group. Increased self-rated and supervisor-rated performance at post-training.
Resilience Programs					
Millea, Liossis, Shochet, Biggs, and Donald (2008)	Pilot trial of the Promoting Adult Resilience (PAR) program that included sessions on understanding personal strengths and resilience, managing stress, self-talk.	SWLS; SPWB; DASS-21; CSE; Social Skills Scale; single-item job satisfaction and work-life fit	<i>N</i> = 28 employees at a resource company in Queensland, Australia	11-60-minute sessions	Significantly increased work-life fit and social skills. No significant differences on all other measures of well-being and mental health
Liossis, Shochet, Millea, and Biggs (2009)	Pilot trial of the Promoting Adult Resilience (PAR) program (same design as Millea et al., 2008)	MBI-GS; SPWB; CSE; LOT-R; single item work satisfaction, family satisfaction, and work-life balance/fit	<i>N</i> = 28 government organization employees	7 – 90-minute sessions	Significant increases in work, family satisfaction and work-life balance and fit. Significant increase in personal optimism and decrease in emotional

Table 2 (Continued)

Author(s)	Description of the Activity	Measures	Sample	Duration	Key Findings
					exhaustion. Personal well-being was approaching significance ($p = 0.054$)
Abbott, Klein, Hamilton, and Rosenthal (2010)	Resilience Online Program (ROL) – designed to increase resilience by teaching core components of cognitive therapy (i.e., emotion regulation, impulse control, optimism, empathy, self-efficacy)	AHI; WHOQOL-BREF; DASS-21	$N = 53$ Australian sales managers	10-weeks	Increased happiness for both intervention and wait-list control – no significant differences between groups. No significant differences on distress and quality of life.
Wellness Programs					
Page & Vella-Brodrick (2013)	<i>Working for Wellness Program</i> that focused on personal strengths and how such strengths facilitates work-related tasks and experiences (e.g., flow, goal striving, relationships)	SWB (i.e., SWLS; PANAS); WWBI; SPWB; AWB	$N = 23$ government employee	6 – weeks; 60-minute small group sessions	Significant improvements in subjective well-being and psychological well-across time. Reported significantly more positive work-related affective well-being in intervention group.

Note. AHI = Authentic Happiness Inventory (Peterson, University of Michigan, unpublished measure); AWB = Affective Well-Being Scale (Daniels, 2000); CSE = Coping Self-Efficacy scale (Chesney, Chambers, Taylor, Johnson, & Folkman, 2003); DASS-21 = Depression, Anxiety, Stress Scales (Lovibond & Lovibond, 1995); LOT-R = Life Orientation Test – Revised (Scheier et al., 1994); MBI-GS = Maslach Burnout Index-General Scale (Maslach et al., 1996); mDES = Modified Differential Emotions Scale (Fredrickson, Tugade, Waugh, & Larkin, 2003); PANAS = Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988); PCQ = Psychological Capital Questionnaire (Luthans, Youssef, Avolio, & Norman, 2007); Social Skills

Scale (Ferris, Witt, & Hochwarter, 2001); SPWB = Scales of Psychological Well-Being (Ryff, 1989); SWLS = Satisfaction with Life Scale (Emmons, Larsen, & Griffen, 1985); WHOQOL-BREF = World Health Organization Quality of Life – BREF (The WHOQOL Group, 1998); WWBI = Workplace Well-Being Index (Page, 2005)

Positive psychology interventions with adults in schools. Although the utility of PPIs is gaining more attention within organizational and work-related research, only minimal intervention studies exist for school personnel and teachers. A majority PPIs for educators have targeted mindfulness activities (Flook, Goldberg, Pinger, Bonus, & Davidson, 2013; Jennings Snowberg, Coccia, & Greenberg, 2013; Roeser Skinner, Beers, & Jennings, 2013); however a handful of interventions have begun to focus on other positive psychology constructs such as gratitude (Chan, 2010). One study (Siu, Cooper, & Phillips, 2014) has even explored the effectiveness of combining a multitude of PPIs into an in-service wellness program. Such studies have explored intervention impact on psychological and physical well-being, self-efficacy, and reduced stress and burnout; attention to indicators of happiness has been minimal. Additionally, most of these studies have been conducted outside of the United States (e.g., in China, Australia, England) and have utilized diverse methodologies (i.e., measures, samples, procedures). Researchers including Gibbs and Miller (2013) have emphasized the potential and profound impact PPIs could have within the school environment, more specifically to promote create resilient and efficacious educators who promote positive learning environments for their students. Although research on the impact of PPIs on overall teacher wellness is in its infancy, promising results (described in detail next) provide a strong rationale for the importance of conducting further rigorous research.

Mindfulness interventions. Within the recent decade, the exploration of mindfulness meditation on teacher well-being has gained tremendous ground. Such programs include Stress Management and Relaxation Techniques in Education (Benn, Akiva, Arel, & Roeser, 2012),

Cultivating Awareness and Resilience in Education (Jennings, Snowberg, Coccia, & Greenberg, 2011; Jennings, Franks, Snowberg, Coccia, Greenberg, 2013), and Mindfulness-Based Wellness Education (Poulin, Mackenzie, Soloway, & Karayolas, 2008). Mindfulness training represents an important component of Positive Psychology Interventions (PPIs) that seeks to foster social-emotional well-being by drawing one's attention to the present time free of judgment and with an open and curious attitude to the experience (Roeser, Skinner, Beers, & Jennings, 2012).

Although previous research has demonstrated the efficacy of mindfulness training (MT) within general samples of adults, recent research has begun to explore its effectiveness in reducing the occupational stress and burnout of teachers and issues related to their mental and physical health. In addition, studies have further investigated how an increase in mindfulness enhances teacher well-being, as well as fosters a positive classroom climate.

Case in point, Roeser and colleagues (2013) demonstrated the efficacy of a mindfulness training (MT) program (Benn, Akiva, Arel, & Roeser, 2012) that reduced teacher occupational stress and burnout, as well as symptoms of anxiety and depression. Through a randomized experiment with a waitlist control group, 113 elementary and secondary school teachers from the United States and Canada participated in the 11-session program for 8-weeks (36 total contact hours). The program focused on building mindfulness and self-compassion through proactive activities (i.e., guided mindfulness, yoga sessions, small-group practice, etc.) that built individual awareness of body sensations, thoughts and feelings, as well as direct instruction on how to effectively utilize mindfulness techniques to regulate emotional stress. At post-intervention and 3-month follow-up, teachers reported significantly reduced occupational stress (measured by 7 items from an inventory of stress) and burnout (Maslach Burnout Inventory) than those within the control condition while controlling for baseline with moderate to large effect sizes (-0.57 to -

0.76). Additional results also revealed that teachers within the U.S. sample reported significantly reduced symptoms of depression and anxiety (-0.71 to -1.56). Results also suggest that changes in teacher mindfulness could have accounted for the reductions in stress, burnout, anxiety, and depression symptoms at 3-month follow up although further analysis is needed to determine the specific pathways of the program's impacts. Teacher acceptability and feasibility data also provided a positive indication that implementing such a program could be highly beneficial and easily implemented within schools. Overall, 98% of the teachers in the MT program reported they would recommend the program to their peers and administrators.

A similar study conducted by Flook and colleagues (2013) implemented a randomized controlled pilot study utilizing a teacher modified version of the Mindfulness-Based Stress Reduction course (mMBSR) that was originally developed by Kabat-Zinn (1994; 2003) and has demonstrated benefits in reducing stress, depressive symptoms, and overall anxiety. The researchers were interested in determining how the program could be feasibly integrated into the school environment, as well as aimed to provide a preliminary understanding of how learning and practicing mindfulness techniques could influence teachers' functioning within the workplace. Eighteen teachers within four public elementary schools which served students of lower socioeconomic and ethnically diverse populations were recruited to participate in the mindfulness-based wellness program; teachers were randomly assigned to the intervention or wait-list control group. For eight weeks within the Fall 2011 academic year, teachers were provided 2.5 hour guided practice sessions with one day-long immersion session (about 6 hours), as well as additional home meditation practice that ranged daily from 15 to 45 minutes. The program incorporated many of the traditional program's techniques including body scanning, various forms of meditation (e.g., sitting, walking and love-kindness meditation), choiceless

awareness, and yoga. Results indicated that the intervention group exhibited improvement in several areas including reduced psychological symptoms, increased mindfulness, self-compassion, and a significant decrease in burnout as measured by the MBI-ES. Furthermore, the intervention group demonstrated improvement in observer-rated classroom organization as measured by the Classroom Assessment Scoring System (CLASS; La Paro, Pianta, & Stuhlman, 2004). In contrast, participants in the control group experienced an increase in burnout as indicated through cortisol levels and self-report measures.

As one of the most comprehensive professional development programs promoting teachers' well-being, Cultivating Awareness and Resilience in Education (CARE) is a social-emotional mindfulness intervention that was developed to reduce teacher stress and burnout while simultaneously supporting teachers in establishing quality classroom environment. Based on the prosocial classroom theoretical model established by Jennings and Greenberg (2009), the program emphasizes the importance of building the capacity of teachers' social and emotional competence and well-being in order to impact the overall classroom climate and improve students' academic and behavioral outcomes. CARE is a highly time-intensive program that is presented in four day training sessions that total 30 hours over the course of 4 to 6 weeks with additional phone coaching and booster sessions to ensure full support. The program consists of emotional skills instruction that supports teachers in maintaining a positive classroom environment by developing self-awareness and being more cognizant of student needs, in addition to training in traditional mindfulness techniques, and compassion focused exercises. A recent randomized controlled trial conducted by Jennings, Frank, Snowberg, Coccia, and Greenberg (2013) explored the effectiveness and overall acceptability of the program among 50 teachers (89% female) randomly assigned to the CARE program or waitlist control condition. A

majority of the teachers taught within elementary schools ($n = 25$) while others taught at the preschool, middle, or high school level. Participants were provided pre- and post-test self-report measures that assessed overall well-being through the PANAS, Emotion Regulation Questionnaire (Gross & John, 2003), The Center for Epidemiologic Studies Depression Scale (CES-D-20; Radloff, 1977), and The Daily Physical symptoms (DPS; Larsen & Kasimatis, 1997). In addition, teachers' self-efficacy was measured through the Teachers' Sense of Efficacy Questionnaire (TSES; Tschannen-Moran & Woolfolk-Hoy, 2001) as well as overall burnout utilizing the Maslach Burnout Inventory-Educator Survey (MBI-ES; Maslach, Jackson, & Leiter, 1997), and mindfulness (The Five Facet Mindfulness Questionnaire; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). Results indicated that teachers in the CARE program demonstrated significant improvements in teacher well-being, efficacy, burnout, and mindfulness when compared with the control condition. Furthermore, 87% of the teachers participating in the CARE program agreed that the program was feasible, acceptable, and supported their ability to effectively manage student behavior and maintain quality student-teacher relationships.

Gratitude interventions. Recent research has also begun to explore the impact of more traditional PPIs, such as gratitude-focused interventions, on teacher well-being. Chan's (2010, 2011) research is the first of its kind to consider applications of a dispositional gratitude intervention on teacher outcomes including subjective well-being. Both studies utilized a count-your-blessings approach that also included culturally focused Naikan-meditation exercises. Each week, participants were asked to list three things they were thankful for that past week, and reflect in detail why they believed such good things happened to them. Through a pre- and post-test method, both studies explored outcomes of teacher happiness that also included the traditional measures of subjective well-being (i.e., SWLS and PANAS) and utilized an additional

measure of happiness that included the Orientations to Happiness Scale (OHS; Peterson, Park, & Seligman, 2005) that was developed based on Seligman's (2002) three components of happiness including life of meaning, pleasure, and engagement.

Chan's (2010) first study explored how effective the eight-week intervention would be in increasing 96 Chinese school teacher's SWB and its relationship with adverse outcomes including burnout. Overall results indicated that teachers reporting low dispositional gratitude at the start of the intervention expressed increased and enhanced life satisfaction, positive affect and gratitude upon completion of the exercise. However, teachers reported initial high levels of dispositional gratitude only exhibited an increase in positive affect. Chan's (2011) study utilized the same pre- and post-test design and eight-week gratitude intervention as described in the previous study but targeted specific outcomes of life satisfaction and teacher burnout. Results indicated significant effects on life satisfaction and the emotional exhaustion component of burnout as moderated by the meaningful-life orientation to happiness. This indicates that teachers who endorse a meaningful-life orientation within the happiness construct tend to be more engaged within the gratitude intervention and demonstrate better outcomes. Both studies were limited in their design (i.e., no comparison or control group) which fails to control for other possible caused factors. Nevertheless, these results from both studies provide support that interventions targeting gratitude demonstrate great promise in promoting positive indicators of mental health including overall happiness deserving further exploration.

More recently, Critchley and Gibbs (2012) investigated the effects of gratitude promotion on the efficacy beliefs of school staff and their overall well-being. Two primary schools were selected that were comparable based on SES and special education services; one school served as the experimental group and the other served as a control school that did not receive further

intervention. Utilizing a mixed-methods approach, the researchers first employed semi-structured interviews and focus groups to explore teachers' personal sense of well-being and self-efficacy beliefs. Such data was further evaluated through thematic analysis and key themes emerged to inform a questionnaire that was developed and utilized throughout the entire study to measure self-efficacy at pre- and post-intervention time points. The survey utilized the phrase "I am able to" and consisted of 14-items on an eight-point Likert scale ranging from "Very strongly agree" to "Very strongly disagree." Thirty-five teachers within both schools completed the generated survey; however, teachers within the experimental school were also randomly selected to participate in a focus group to gain more information on responses to the questionnaire. Teachers then participated in a PPI that mirrored Seligman et al.'s (2005) 'Three Good Things' intervention that asked participants to list and reflect on three things that went well for the individual daily. Such information was tracked in a journal specially designed for the participants to ensure engagement with the activity. Analysis of covariance (ANCOVA) was utilized to control for differences between schools, and revealed that the experimental group demonstrated significantly greater effect sizes in efficacy beliefs. Well-being was evaluated based on the gathered qualitative data that demonstrated positive changes in thinking specifically towards the support of fellow peers and focus on overcoming obstacles. Overall, results indicate gratitude interventions can have beneficial effects within a school setting; however the researchers note design limitations in the study, including the nontraditional measure of self-efficacy and well-being and lack of employing other validated and reliable measures of well-being that could further substantiate the findings. Additionally, no follow-up data was gathered to determine the intervention's impact over a longer period of time.

Multi-component positive psychology interventions. There are few examples of multi-target PPIs (e.g., gratitude, character strengths, optimism, hope) within the literature, but only one study has explored the impact on teacher outcomes. Specifically, Siu, Cooper, and Phillips (2013) utilized a positive psychology approach to combat occupational stress and promote work-related well-being and positive emotions in teachers. Utilizing a quasi-experimental design, 50 teachers were recruited for the experimental condition receiving the wellness program, while 48 teachers were placed in a controlled group. Teachers recruited for the training course were encouraged to ask a fellow coworker to complete the questionnaires which formed the control condition. The intervention consisted of a rigorous 2.5 day training (7 hr each day) that targeted a multitude of positive psychology constructs including character strengths, optimism, hope, self-efficacy, gratitude, and mindfulness training. Additionally, participants were trained on other stress and coping techniques (i.e., muscle relaxation, emotion management) and were introduced to the construct of positive psychology and its implications on the workplace. The participants work well-being was measured through two researcher-developed items assessing job satisfaction (e.g., “All in all, I am satisfied with my job”) and physical and psychological symptoms through six-items from the Psychological Well-Being scale of an Organizational Stress Screening Tool (ASSET; Cartwright & Cooper, 2002). Positive emotion was evaluated through five-items from the WHOQoL quality of life scale (Leung, Tay, Cheng, & Lin, 1997) and burnout was assessed through the emotional exhaustion component of the MBI. Post-intervention analysis indicated that participants demonstrated mean increases in positive emotions, and decreased in emotional exhaustion and physical/psychological symptoms when compared to the control group; however, differences were not statistically significant (i.e., majority of *t* scores approaching 1.00). It is possible that a lack in statistical significance could

have been the result of time constraint. Although participants were introduced to the constructs, they were not provided the opportunity to implement and practice the techniques over a period of time. Additionally, such training may have proven to be statistically significant over time if such trends continued although follow-up data collection was not noted.

Although limited, current research suggests that implementing PPIs with educators may not only prove beneficial in supporting their increased well-being but may also contribute to positive indicators of health (i.e., reduced stress and burnout and increased work engagement) and overall functioning within other life domains. However, there is currently no research that has explored how interventions targeting character strengths including Seligman's (2005) *Utilizing Strengths in a New Way* may impact teacher outcomes. This is surprising given the fact that this specific PPI as discussed within the following section has proven most efficacious compared to all other current PPIs within the field. Additionally, character strengths are particularly relevant in the current educational field given its current deficits approach. It is posited that exposure and cultivation of teachers' character strengths can serve to build the capacity of personal resources that promote higher levels of subjective well-being. Additionally, interventions targeting the development of positive emotions can reduce the effects of negative emotions that are accrued through emotional distress and burnout.

Character strengths. Researchers are beginning to explore the impact of character strengths for both students and teachers within the classroom context and overall school environment (Harzer & Weber, 2013). Most notably, such research (e.g., Harzer & Weber, 2013) is investigating how schools can be a valuable institution in which to learn and foster both youth and adult character development. Research has shown that students' character strengths demonstrate an impact in the school environment predictive of student academic achievement,

self-efficacy, and positive classroom behaviors (Weber & Ruch, 2012). Peterson and Park (2006) found that character strengths (e.g., love, social intelligence, and kindness) were more correlated with satisfaction with jobs including teaching participants. A recent study conducted by Chan (2009) found that teachers reporting emotional strengths (e.g., courage, bravery, self-regulation), as well as strengths of hope and zest were robust predictors of subjective well-being. Although the exploration of character strengths of teachers and positive indicators of well-being including subjective well-being is in its infancy, further examination can lead to targeted interventions that support the prevention of symptoms of stress and burnout.

Positive psychology research has found the most utility in impacting character strengths above all other targeted constructs. Evidence from PPI studies have shown that character strengths are malleable to change (Namdari, Molavi, Malekpour, & Kalantari, 2009; Proyer, Ruch, & Buschor, 2013) and demonstrate the most lasting outcomes (Seligman et al., 2005). As summarized in Table 1, character strengths were among a group of targeted positive psychology constructs in Seligman and colleagues' (2005) groundbreaking study of positive psychology interventions. Two character strength intervention conditions were tested, including (a) Identifying signature strengths (i.e., note five highest strengths and use all of them more often during the course of a week), and (b) the intervention examined in the current study—Peterson et al.'s (2005) *Using Signature Strengths in a New Way* intervention. Specifically, individuals were asked to first complete the VIA-IS (Peterson, Park, & Seligman, 2005) which measured the participants' character strengths and provided their top five signature strengths. After the identification of each participant's top signature strengths, participants were directed to use each strength in a new and different way each day for one week. At the conclusion of the intervention, participants completed the SHI (Seligman et al., 2005) at the pre-intervention, post-intervention,

one-week follow-up, and one-, three-, and six-month follow-up. Overall, ANOVA analyses found that participants in the using signature strengths in a new way intervention reported higher levels of happiness and decreased psychopathology at all follow-up time points (i.e., up to six months post intervention) that were significant when compared to the control condition. Most notably, the results suggest that this intervention led to longer lasting positive outcomes in overall well-being.

Strengths-based interventions. In addition to Seligman and colleagues' (2005) groundbreaking research that determined that the 'utilizing strengths in a new way' intervention significantly increased and maintained positive outcomes for its participants including increased levels of subjective well-being and decreased levels of pathology, additional research has found similar findings including long lasting outcomes for adult participants.

Mitchell, Vella-Brodrick, Klein (2009) implemented the 'using signature strengths in a new way' intervention through an internet-based website that allowed participants to access components of the intervention without direct face-to-face contact with a mental health professional. The goal of the intervention was to determine the effectiveness of the strengths-focused intervention when compared to a cognitive-behavioral (i.e., problem-solving) intervention and placebo control. Through a randomized controlled trial, Australian adults ages 18 to 62 (N = 160) who screened negative for mood or anxiety disorders were recruited through various online sources and evaluated at pre-, post- and 3-month follow-up. Most participants ranged were female (83%) and were employed college graduates. Over the course of three weeks, participants within the strengths-based intervention took part in three online sessions which included identifying one's signature strengths, selecting specific signature strengths to develop further through daily practice, recording of progress through an online diary, and

continuous updates and review of the participants' development. Participants assigned to the active control condition were taught a six-step approach to problem-solving and instructed to apply such skills to real life problems on a weekly basis. Participants in the placebo control were provided a condensed version of the problem-solving intervention without the use of the web resource nor were they provided additional tasks to apply within their daily life. Well-being was measured using PANAS, SWLS, the Personal Well-Being Index – Adult (PWI-A; IWG, 2006), Depression, Anxiety, Stress Scales (DASS-21; Lovibond & Lovibond, 1995), and Orientations to Happiness (Peterson et al., 2005). Utilizing a repeated measures ANOVA, results from the PWI-A indicated that participants within the strengths-based intervention reported a significant increase in overall well-being (i.e., increased PWI-A scores) as compared to the problem solving and placebo control group; however, differences in SWLS and PANAS between groups was not evident. The researchers emphasized that the PWI-A may have been a much more sensitive measure of subjective well-being given its focus on specific life domains in addition to the fact that the strengths-focused intervention may have a much more profound impact on the cognitive rather than affective component of well-being. Results exploring group differences on the subscales of the OTH determined that participants within the strengths-based intervention demonstrated increased levels of engagement and pleasure at least 3 months after the completion of the intervention. Although improvements in engagement and pleasure were found, levels of psychopathology were not reduced as measured by the DASS-21. As emphasized by the researchers, a major limitation of the study was its significant attrition rate (83% at 3-month follow-up) which was attributed to the design of the automated intervention without human interaction in addition to limited adherence rates (average was 31%) to the internet-based tasks. Although further research is needed to explore the usefulness of web-based interventions as

forms of mental health care, the demonstrated benefits of increased subjective-well being for participants is promising and warrants further investigation.

A more recent study conducted by Mongrain and Anselmo-Matthews (2012) sought to replicate Seligman et al.'s (2005) original study exploring the impact of multiple PPIs on both happiness and depressive symptoms with a more rigorous methodological design. A notable modification included the implementation of a 'positive placebo' which asked for assigned participants to reflect on positive memories of one's past. This addition allowed the researchers to determine if the specific PPIs assessed within the study including the 'using signature strengths in a new way' intervention demonstrated unique benefits rather than shared common factors in garnering positive self-representations. A total of 1,447 participants of predominantly Canadian descent (84%) and female (83%) were recruited to take part in the web-based intervention entitled Project HOPE and were randomly assigned to four treatment conditions which included an expectancy control (i.e., reflection of early memories), positive placebo (i.e., reflection of early memory associated with well-being), 'three good things' intervention (Seligman et al., 2005) and 'using strengths in a new way' PPI. The average scores of the participants were within the clinically significant range for depression based on the Center for Epidemiologic Studies Depression Scale (CES-D; Geisser, Roth, & Robinson, 1997). Participants in the online strengths-based intervention completed the web-based VIA-IS questionnaire and then asked to use identified top strengths in a new way each day for one week. Participants completed the CES-D and the Steen Happiness Index (SHI; Duckworth, Steen, & Seligman, 2005) at post-intervention, 1-month, 3-month, and 6-month follow-up through an email based reminder. Of the original sample, 344 (24%) completed the entire study through the 6-month time point and these participants were included in the final analyses. Utilizing a

repeated measures ANOVA, results indicated that individuals participating in the ‘using signature strengths in a new way’ intervention increased significantly as measured by the SHI compared to baseline levels at 1 week, 1 month, and at the 6-month follow-up; however, changes in CES-D were not observed. Additionally, the researchers found that positive placebo demonstrated significant effects equivalent to the strengths-focused intervention group. The researchers found that the PPIs produced small effects and lend support to the notion that building upon character strengths is an effective means to generate happiness. However, given the severe attrition rate and implementation of repeated ANOVA statistics which do not account for missing data, the overall results may have been diminished.

Senf and Liao (2013) also explored character strengths within their most recent study that examined how a gratitude-based and strengths-based intervention would impact both happiness and depressive symptoms. Malaysian undergraduate students ($N = 122$) between the ages of 18 and 33 years and predominantly female were randomly assigned to participate in the gratitude or strengths-based intervention group or a no-treatment control condition. The participants within the strengths-based intervention identified their top five signature strengths based on the VIA-IS inventory completed online, then attempted to utilize these top strengths in novel ways on a daily basis for one week (as emulated in Seligman’s [2005] study). Measures of happiness (i.e., the SHI) and depressive symptoms (i.e., the CES-D) were completed at pre-intervention, and at one- and five- week follows-ups. After controlling for pre-intervention levels of happiness, regression analyses revealed that participants within the strengths-based intervention had significantly higher levels of happiness compared to those within the control condition at post-intervention and exhibited higher levels of happiness at one-month follow-up when compared to both the gratitude intervention and control group. At one-week follow-up, results did not indicate

significant differences in depression between the strengths-based participants and the control group; however, at one-month follow-up, participants in the character strengths condition reported significantly less depressive symptoms as compared to the control condition. These results reveal the benefits of the character strengths intervention including increased happiness and decreased depressive symptoms. Most importantly, the results of this study support that such outcomes can be long-lasting and endure over time.

Methodological Approach

The majority of research exploring the effects of positive psychology interventions has utilized randomized controlled studies that determine effects based on differences between experimental and control groups. Although this methodological approach strengthens internal validity (i.e., the extent to which extraneous variables are controlled), such designs have limited the understanding of how these interventions affect individual participants. Lyubomirsky and Layous (2013) emphasize that positive activities and interventions explored through positive psychology research tend to be more nuanced and varied amongst individuals which warrants further exploration. Through randomized controlled trials, research has found some evidence to suggest that specific conditions enhance the overall outcomes of happiness interventions including features of the specific activity (e.g., dosage, sequence, variety), as well as person-centered factors (e.g., motivation, acceptability, engagement, personality, initial affective state). Although the methodological approaches currently utilized to explore happiness interventions has unveiled possible moderating and mediating conditions, further person-centered research is highly warranted within the field. To date, no published studies exploring positive psychology interventions and subjective well-being have utilized a single-case design approach. The latter

approach may shed light on features of participants who experience improvements in subjective well-being, and features of those participants who do not change over time.

Summary of the Literature

In sum, research has demonstrated that educators play a vital role within the classroom context promoting student achievement through valued teaching practices including but not limited to the promotion of a positive classroom climate, quality classroom management skills, and proficient understanding of academic knowledge. Unfortunately, the profession is also characterized by other negative attributes including high levels of stress and burnout that are often tied to occupational stressors and result in emotional exhaustion, depersonalization, and decreased sense of personal accomplishment (Maslach et al., 2001, 2009). Teachers are often subjected to stressful demands within the classroom context with minimal strategies to regulate emotional distress. With teacher attrition rates estimated to be at 20% for beginning teachers (i.e., 1 in 5 teachers leave the profession within their first three years of teaching; Chang, 2009), it is vital that more research target ways in which to better support teacher's ability to cope with such highly demanding expectations and environments.

Current research is beginning to explore a more positive means in how to support teachers' well-being especially in terms of facilitating social and emotional competence and coping strategies (Jennings & Greenberg, 2009). Unfortunately, such research is still limited given the lack of consensus in regards to defining teacher's complete mental health. A more progressive delineation of mental health is now focusing not only on the absence of psychopathology but also incorporates other indicators of well-being including happiness, satisfaction with life, and positive emotions. Although extremely limited, research has shown a relationship between teacher effectiveness and indicators of well-being (i.e., life satisfaction,

personal grit; Duckworth, Quinn, & Seligman, 2009) which may suggest that supporting the facilitation of increased teacher well-being may have extensive implications beyond just teachers.

Within the more novel field of Positive Psychology, the exploration of personal wellness and aspects of the human condition that results in optimal functioning has become paramount. Rather than focus on personal deficits, the field of Positive Psychology seeks to determine what individual and societal attributes and strengths promote overall happiness and thriving (Seligman & Csikazentmihalyi, 2000). Current research has become much more focused on constructs (e.g., hope, character strengths, gratitude, kindness) that are malleable to change and interventions that target such constructs in order to promote positive outcomes including increased subjective well-being and decreased psychopathology including the workplace. As the scientific term for happiness, subjective well-being is considered within the field as an inclusive term for well-being that depicts an individual's cognitive and affective appraisals of worldly experiences. The construct incorporates components of life satisfaction, as well as positive and negative affect (Diener, 2000) and is associated with indicators of optimal functioning including increased productivity in the workplace, strong immunity, and positive health outcomes (Diener & Biswas-Diener, 2008; Oishi, 2012; Roysamb et al., 2003; Staw, Sutton, & Pelled, 1994).

Of the positive psychology interventions (PPIs) examined in recent research, the PPI with the most substantial and lasting impacts has focused on supporting individuals' development of personal character strengths (i.e., *Using Strengths in New Way*; Seligman et al., 2005). Character strengths refer to a set of 24 individual positive qualities that are among a broader set of virtues. It is suggested that each individual has a unique profile of signature strengths that can be identified utilizing the Values in Action-Inventory Survey (Peterson, Park, & Seligman, 2005)

and targeted to be used in a new and different way on a daily basis. Although there is limited research that has explored positive psychology interventions with educators in schools and have targeted a few of the positive psychology constructs (i.e., mindfulness, gratitude, multi-component), to date, no published studies have empirically examined the impact of a strength-based intervention on teacher's subjective well-being. Additionally, positive psychology interventions that have utilized teachers as participants have not studied the effects of subjective well-being on secondary outcomes of teacher stress and burnout. Research in the positive psychology field has also utilized methodological approaches that have investigated the impact of wellness interventions through true or quasi-experimental methodological approaches. While group differences have been observed such studies have failed to examine the individual nuances of the intervention through a single-subject design.

Purpose of the Study

The purpose of the current study was to explore the impact of a strength-based intervention on elementary school teachers' subjective well-being and other noted indicators of emotional distress and burnout. Additionally, the study used a novel methodological approach that may influence how positive psychology interventions are explored in the future. The study was conducted to answer the following research questions:

1. To what extent does a strengths-based intervention called *Utilizing Signature Strengths in New Ways* exert a positive impact on elementary school teachers' subjective well-being, as indicated by:
 - i. Global life satisfaction
 - ii. Positive affect
 - iii. Negative affect?

2. To what extent does *Utilizing Signature Strengths in New Ways* exert a positive impact on secondary outcomes, as indicated by:
 - i. Domains-specific satisfaction, in particular work satisfaction
 - ii. Negative dimensions of mental health, including:
 - a. Perceived Stress
 - b. Occupational burnout
 - iii. Psychological well-being (flourishing in life)?
3. How do elementary teachers perceive *Utilizing Signature Strengths in New Ways* appropriateness, efficacy, and feasibility?
 - i. Enacted implementation schedule (duration, dose)
 - ii. Elementary teachers' perceptions of intervention acceptability?

Chapter 3

Research Methods

This chapter describes the methods used in the current study. This study implemented a strengths-based, positive psychology intervention (i.e., ‘Using Strengths in a New Way’) with elementary teachers in order to examine its impact on teachers’ overall subjective well-being and relevant secondary outcomes in regards to stress, burnout, and flourishing in life (i.e., perceived success in social relationships, self-esteem, purpose, and optimism). This section includes a description of the participants, discussion of recruitment procedures, risks to participants, and protection of human subjects. Next, the intervention is described, including descriptions of the research design and the measures used to examine the key outcomes variables. The chapter ends with an overview of the data analyses conducted to answer the study’s research questions. Additionally, ethical considerations and risks and benefits to participants are discussed. Research questions for this study are provided below.

Research Questions

1. To what extent does a strengths-based intervention called *Utilizing Signature Strengths in New Ways* exert a positive impact on elementary school teachers’ subjective well-being, as indicated by:
 - i. Global life satisfaction
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 - i. Domains-specific satisfaction, in particular work satisfaction
 - ii. Negative dimensions of mental health, including:
 - a. Perceived stress
 - b. Occupational burnout
 - iii. Psychological well-being (flourishing in life)?
3. How do elementary teachers perceive *Utilizing Signature Strengths in New Ways* appropriateness, efficacy, and feasibility?
 - i. Enacted implementation schedule (duration, dose)
 - ii. Elementary teachers' perceptions of intervention acceptability?

Participants and Setting

Participants for the study included eight teachers from a public elementary school located within a school district in the southeastern region of the United States. Teachers who were actively teaching (i.e., delivering instruction) in elementary schools and expressed interest to participate in the study were eligible to participate, thus reflecting a convenience sample. Teachers' experiences in the profession ranged from 2 to 27 years ($M=11.4$ years) with each teacher representing every level of elementary school, from Kindergarten through fifth grade except for 3rd grade. All participants were females and a majority identified as Caucasian (i.e., 88%). Table 3 provides further description of all participants. The selected sample satisfied the *What Works Clearinghouse* (WWC) standards for experimental control in which three demonstrations of the experimental effect could be exhibited at three different time points (Kratochwill et al., 2010). Additionally, the size of the sample ensured that experimental control

was maintained if attrition of participants resulted. Additional demographic information is provided in Table 3 below.

Table 3

Teacher Participant Demographic Information

Participant	Age	Grade Level Taught	Years of Experience	Number of Students	Race/Ethnicity
Participant 1	27	2 nd	3	17	Caucasian
Participant 2	47	2 nd	21	17	Caucasian
Participant 3	23	K	2	17	Caucasian
Participant 4	50	4 th	27	20	Caucasian
Participant 5	28	5 th	5	42*	African American
Participant 6	28	4 th	5	18	Caucasian
Participant 7	50	1 st	22	17	Caucasian
Participant 8	28	K	6	17	Caucasian

Note. *Teacher served in a co-teaching role with 21 students in each classroom.

An elementary school was actively sought that demonstrated willingness for teachers to participate in the implementation of the intervention to be tested within this study and expressed interest in positive psychology research. The administration at the selected school expressed desire to support teachers’ mental health and felt the proposed teacher intervention would serve as a valuable means to increase teachers’ enthusiasm and happiness towards their work in the school environment. During the time period the intervention was enacted, the school encompassed a total of 55 general education school teachers and 911 prekindergarten through 5th grade elementary students. A majority of the students identified as Caucasian (55%) and Hispanic (22.5%) with 51% receiving free and reduced lunch, according to data reported by the Florida Department of Education. For the 2013-2014 school year, the school received an A grade rating (the highest possible) and was considered to be a high-functioning school both academically and behaviorally.

A letter to recruit the school principal is included in Appendix B. A different handout for all key stakeholders outlined the major components of the study and requirements for

participation in the research (see Appendix C). Just prior to distribution of this handout, the author of this thesis facilitated a PowerPoint presentation that provided an overview of the study and requirements of participants (refer to Appendix D). All teachers currently delivering instruction in the classroom were considered in this recruitment and screening process when the PowerPoint was facilitated. Potential participants were told they needed to have access to a form of technology to complete the VIA-IS online measure and time series measures collected through an online database. Descriptive statistics of the features of the study participants were also collected during the completion of the screening process. All eight participants who met initial inclusion criteria participated in the study from initial baseline data collection, intervention, and follow-up.

Strengths-Based Teacher Intervention

Using a signature strength in a new way. The intervention implemented in this study was originally developed by Seligman and colleagues (2005) to increase levels of happiness for adult participants. The intervention is based on Seligman's (2002) framework of happiness through the routes of the pleasant life, engaged life, and meaningful life and targets the development of personal strengths and virtues. The intervention was adapted for teachers to build their strengths directly within the classroom context. The following sections provide an overview of how the intervention protocol was developed and description of the specific components of the intervention including additional components added by the primary researcher.

Intervention protocol development. Prior to the implementation of the strengths-based intervention with elementary school teacher participants, the primary investigator (PI; this graduate student) along with consultation of her major professor, developed an initial written intervention protocol detailing the specific components and written scripts that would be utilized

within each teacher session to ensure for consistency and fidelity of intervention implementation. Two graduate students with expertise in positive psychology and one elementary school teacher volunteered to pilot the intervention protocol. Each volunteer participated in a one to two mock sessions with the PI and reviewed each element of the proposed intervention manual for that specific session and provided handout and resource made available during the session. Each volunteer relayed his or her feedback regarding his or her overall acceptability of the session. Additionally, each volunteer described to the PI any potential changes to the intervention protocol that could improve upon the clarity and understanding of each specific component of the session, as well as ensure the session remained succinct given the teacher's limited time within the school context. Changes to both the script and description of materials were made, while some handouts were either modified or removed to improve upon the flow and efficiency of each developed session. A final draft of the strengths-based intervention protocol was developed prior to initiating the intervention with the elementary teachers described in this study and is further described in the following section.

Intervention implementation. The PI met with each participant on an individual basis and followed each proposed step of the following intervention procedures, originally intended to be enacted over a 2-week period (modifications to this schedule are described in Chapter 4, within the discussion of intervention feasibility). Appendix G presents the protocol developed and adhered to by the PI during individual implementation of each session. Described below are the specific components of each session of the intervention, as summarized in Table 3.

Session 1. During the initial session, the participant was first introduced to the Park, Peterson, and Seligman's (2004) defined character strengths which are referred to as "traits that reflect thoughts, feelings, and behaviors" (p. 603). The PI shared the "Classification of 24

Character Strengths” sheet (Appendix G) and interactively discussed the meaning of each of the 24 identified strengths with the participant drawing connections to the classroom context. A comprehensive review of each character strengths ensured that the participant comprehended and fully understood the meaning of each character strength. The participant then developed a list of ideas as to what she thought were her top 5 character strengths and wrote ideas on a generated handout (Appendix G). The participant and PI then discussed the strengths that the participant chose for herself and discussed why she selected each strength. Then, the PI discussed with the participant how using character strengths may relate to happiness in the present time. The participant initially generated a list of her ideas connecting character strengths to happiness and wrote the list on a separate handout (Appendix G). In addition, tangible stories were utilized to equate good feelings with the use of character strengths especially within the classroom context (e.g., demonstrating *teamwork* by helping colleagues in developing lesson plans focusing on fractions; using gratitude by writing a letter of thanks to a teaching mentor for their continued support and guidance).

Participants were directed to complete the inventory of character strengths (Values in Action; VIA-IS described below) through an online survey provided at www.authentic happiness.org which took approximately 25-35 minutes to complete. Prior to the first session, the PI pre-registered each participant to complete the survey. During Session 1, the PI followed the online instructions and reviewed the instructions for completing the online questions with the participant. Once the participant completed the measure, the PI unveiled the participant’s 5 top signature strengths to read and review. Additionally, the PI scheduled a time to meet with the participant in the coming two days to complete Session 2.

Session 2. After completion of the initial VIA-IS survey, participants received individualized feedback (within 24 to 48 hours after Session 1) from the PI regarding their top five “signature” strengths (Peterson et al., 2005). The participants then compared their top 5 strengths generated by the VIA-IS to their initial list and discussed similarities, differences, and any reactions to the results. If the participant strongly felt that a given strength did not match her, the participant crossed out the strength on her list as this is not a good match for her. The PI then asked the participant to discuss in what ways she had used the signature strength as of recently in any domains of life (i.e., family, friends, work). The PI then asked the participant to select one of her top five signature strengths to be utilized in a new and different way for one week. The participant’s ideas were collected on a document entitled “New Uses of My First Signature Strength” (see Appendix G). The researcher worked individually with the participant to develop ideas on how her selected signature strength could be utilized in a new and different way within the school setting (see Appendix H for a list of examples developed with the lead author’s permission developed from Rashid and Anjum (2014) *340 Ways to Use VIA Character Strengths*) for each day during the intervention phase). Next, participants were directed to use one of these top strengths in new and different ways within the classroom context every day for one working week (i.e., 5-7 working school days). The PI showed the participant how she would track how the ‘signature’ strength was used in a new way through journaling (e.g., “I demonstrated an appreciation of beauty and excellence by recognizing one of my student’s writings that described her personal hero. I read her work in front of the class and described how she used excellent descriptive words in her paper.”). The journal was provided through a free-write space provided on a survey administered through Qualtrics (refer to Appendix F). Additionally, the PI reviewed the two surveys (SWLS and PANAS, described below) that the

participant would complete every-other-day to track her overall level of life satisfaction and emotions. Further description of the specific procedures for survey data collection is further described in the described further in the *Teacher Survey Administration* section.

Session 3. The PI met with the participant for another session within one working week (i.e., 5-7 working days) after completing *Session 2*. The PI discussed with the participant her progress in the daily completion in using his or her signature strength in a new and different way and data collection procedures including survey level data and journaling. The PI supported the participant if having difficulty with the data collection process and guided the participant in problem solving any difficulties. The participant was asked to describe at least two examples of new ways that she used the chosen signature strength during the last week and reflected on his or her feelings related to the use of the strength within the classroom context. Additionally, the PI discussed with the participant any difficulties that made it hard to use her strength, and problem-solved ways that such obstacles could be addressed.

The PI prompted the participant to select another signature strength which she would like to work on within the second week (i.e., 5-7 work days) of the intervention. The PI provided an additional record form entitled “New Uses of My Second Signature Strength” (Appendix G); the participant wrote out her ideas for how to use the strength in new and different ways, some ways were from the pre-generated list of ideas (refer to Appendix G). The PI provided the participant any needed support including addressing any obstacles that may limit her in performing the daily completion of the tasks and any clarification in terms of maintaining focus on the specific selected strength. In addition, the PI reviewed the procedures for data collection of survey data (i.e., SWLS and PANAS) and journaling of daily strength use. At the end of the session, the PI copied the record form and gave the participant the original to refer to throughout the week.

Session 4. One-week (i.e., 5-7 working days) after completing *Session 3*, the PI met with the participant to review progress with the second week of intervention tasks in using her signature strength in new and different ways. The PI conferred with the participant her progress in the daily completion of the tasks and data collection procedures including survey level data and journaling. Additionally, the PI discussed with the participant any obstacles that may have arisen during the data collection process or in attempts to complete the daily task. After reviewing the completion of the second week task of the intervention, the PI prompted the participant to discuss how she continued to utilize her strengths in new ways and maintain the use of strengths on a continuous basis. The PI provided a rationale for continuing the intervention task. This included a discussion that capitalized on the concept of person-activity fit focusing specifically on research that has demonstrated lasting improvements due to continued use of positive activities that are well-matched to an individual's personal preference (Lyubomirsky & Layous, 2013). Additionally, the PI encouraged the participant's further efforts in future implementation of strengths through the presentation and further discussion of a pie chart noting the three determinants of happiness (i.e., genetic set point, life circumstances, and purposeful activities) and Brickman, Coates, & Janoff-Bulman's (1978) theoretical perspective of the *hedonic treadmill* which emphasizes the importance of continued employment of intentional positive activities to maintain gains in happiness. The PI then directed the participant to complete a treatment acceptability form (described below) that allowed the participant to provide her perspective of the intervention in terms of the overall feasibility and adequacy of the intervention's tasks within the school context. Upon completion of the form, the PI presented the participant with a certificate of completion (see Appendix G) that accounted for her participation in the intervention.

Table 4

Intervention Activities and Schedule

Session	Activity
1	Participant introduced to the Park, Peterson, and Seligman's (2004) "Classification of 24 Character Strengths." The participant generated a list of strengths that he or she believed he or she possessed and discussed reasoning. Participant learned how character strengths are related to happiness. The participant completed the Values in Action Inventory of Strengths (VIA-IS), a 240-item instrument that uses a 5-point Likert scale to measure the degree to which participants endorse each of the 24 character strengths. The participant's top five "signature" strengths were unveiled.
2	Participant reviewed his or her top five "signature" strengths, and evaluated them in terms of compatibility and recent uses in life domains (i.e., family, friends, work). Participant selected one strength to use in a new and different way within the school context for one working week. The participant was shown how to complete the journal to track how he or she used the signature strength in a new and different way along with online measures every other day.
3	Participant discussed progress in completing daily intervention task in using a signature strength in a new and different way within the school context. Participant problem solved with researcher any difficulties and reflected on experience. A second signature strength was selected to use in a new and different way for a second week.
4	Participant reviewed experience in completing daily intervention tasks in using a second signature strength in a new and different way within the school context and created a plan for how he or she would continue to use his or her strengths focusing on strategies that worked best for the participant (i.e., person-activity fit). Participant learned about the three components of happiness (i.e., genetic set point, life circumstances, purposeful activities) and the importance of continuing to implement strengths based on research identifying the <i>hedonic treadmill</i> . Participant completed a treatment acceptability measure (i.e., IRP-15) and post-assessment measures. Participant received a certificate of completion for finishing the intervention.

Monitoring progress. The PI collected the time series data from the participant using an online resource, Qualtrics, every-other-day, specifically at the end of the day on Mondays, Wednesdays, and Fridays. The PI sent a reminder email to each participant each morning of every-other-day data collection to remind him or her to complete the online surveys and journal, in addition to a reminder text if the participant had not completed the survey by 9:00PM that evening. Additionally, the PI came to the school at least once a week (i.e., before or after the

school day based on teacher preference) other than the session meetings for informal check-ins with the participant to monitor his or her progress with data collection. If the PI found that the participant has missed one day of data collection, she emailed and/or called the participant (based on participant preference) to remind the participant of the procedures. If the participant failed to complete an online survey for the second time, the PI scheduled a time to meet with the participant personally to determine what obstacles may be preventing him or her from completing the task.

Planned duration of intervention. The *Using Signature Strengths in a New Way* intervention took place over the course of two weeks within four separate sessions. Each session was expected to last approximately one hour in length. The length of the intervention was based on previous research, minimizing threats to internal validity, and in respect to teacher's limited time. Research evaluating positive psychology interventions has found happiness to be impacted even when the intervention is implemented in a one-week period. Seligman and colleagues (2005) interventions implemented over the course of one-week demonstrated significant improvements to participants' happiness and decreases in depression levels which were maintained up to six months including the *Using Signature Strengths in a New Way* intervention. A two-week intervention was expected to be feasible to implement during the course of one semester while still allowing for baseline and post-intervention to be appropriately collected. Furthermore, the duration was expected to limit the potential confounding effects of having a semester break during the course of the intervention. The intervention's brief duration also ensured that teachers were provided with quality opportunities to participate in the intervention without exhausting the time that was needed to devote to the teaching context.

Administration of intervention. The intervention was administered individually to each participant on a weekly basis. The initial week, participants met with the PI twice (for Session 1 then Session 2 approximately 24-48 hours after the initial session). The participants then met with the PI for two following sessions spread one week apart (i.e., 5-7 working days). Participants selected a meeting location within the school building they felt was comfortable, feasible, and appropriate to meet on an individual basis.

Fidelity checks. In order to ensure that the *Using Signature Strengths in a New Way* intervention was implemented as intended, fidelity checks were conducted throughout the intervention using the Treatment Integrity Forms located in Appendix G. Each session was also audio-recorded. The audiofiles were evaluated for accuracy by independent reviewers who determined to what extent specific components of the sessions were adhered (key elements of sessions specified on the treatment integrity forms). Audio-taped sessions were randomly selected to review (30% of sessions; 10 total recordings) for treatment integrity by graduate students trained by the PI. Training consisted of an overview of the specific components of the intervention (i.e., purpose, core components, and specific session topics) and the Treatment Integrity Form. The PI trained the graduate students by conducting a mock audio-taped session; each evaluator listened to this file and completed a treatment integrity form. The PI then reviewed the graduate student's completed form for accuracy. The training also provided the evaluators an opportunity to address any questions or concerns.

Research Design and Procedures

Multiple-baseline design. The current study was conducted using a concurrent multiple baseline single-case design. Multiple baseline designs are a component of single-case research (Kazdin, 1982), an experimental research design that is carried out with one case (e.g., single

participant or a group treated as one entity). Single-case research designs have several specific elements that make them distinguishable from group designs. The primary focus of the research study is at the individual level rather than at the group level and includes baseline and treatment phases. Data was collected on a repeated basis at multiple time points prior to intervention implementation and during treatment phases to determine the impact of the selected outcome variables.

A multiple baseline design incorporates all of the described factors above, but is designed to stagger the onset of the independent variable (i.e., intervention) with varying baseline phase lengths at different points in time. This design is often viewed as advantageous given that the sequential introduction of the intervention across time strengthens the design's internal validity increasing substantiation that treatment effects are to intervention implementation rather than other confounding variables (Barlow, Nock, & Hersen, 2009; Kratochwill & Levin, 2010). Additionally, a multiple baseline design is ideal given its methodological rigor in identifying changes in the dependent variable as a result of an intervention. In order to detect significant treatment effects, the design is also favorable in multiple statistical analyses (e.g., multi-level modeling; Biglan, Ary, & Wagenaar, 2000). Furthermore, the design was also considered appropriate for this study as the newly learned behavior cannot be readily removed from the participant's repertoire.

Recruitment of teacher participants. Teachers were recruited from one elementary school in the southeastern region of the United States. Teachers at the selected elementary school were initially introduced to the intervention through an overview PowerPoint session (see Appendix D) presented by the PI to all the school's teaching staff detailing the purpose of the study and the specific requirements and components entailed in the research. Teachers were also

provided a separate handout as described above that (refer to Appendix C) provided an email address and phone number in which to contact the researcher regarding interest in the study. An initial survey screening of all teachers who communicated initial interest in participating within the school was completed to determine the teacher's current level of global life satisfaction (SWLS; Diener, Emmons, Larsen, & Griffen, 1985) described below. Teachers' average scores were examined in order to determine who would be recruited to participate in the intervention. All teachers who scored a 6 or below based on a 7-point metric on the SWLS scale (corresponding to "Satisfied," or less than optimal satisfaction with life) were eligible to participate in the study. A total of 13 teachers expressed interest to participate in the study and all 13 teachers were determined eligible based on the given criteria. Only teachers who consented to participate in the study were eligible to take part in the intervention. Of the initial pool of 13 teachers meeting eligibility requirements and consent, 8 teachers were selected through stratified random sampling based on the grade level taught. Two copies of the consent form were presented to teachers who were randomly selected and meet eligibility to participate in the study (one copy was signed and returned to the PI, and the second copy was provided for the teacher's records). The PI's financial and time resources permitted her to work with only 8 teachers. The remaining 5 teachers who were not selected were provided an overview of the strengths-based intervention components through a collective staff meeting at the school-based site in August 2015.

Random assignment. Random assignment of participants is regularly used in single-subject designs to increase internal validity as it helps to ensure that the intervention's effects are not due to other extraneous factors (Kratochwill & Levin, 2010; 2014). In the current study, the eight teachers selected to participate in the study were randomly assigned to begin receiving the

intervention at one of the three multiple baseline conditions (i.e., each teacher will start the intervention at pre-established start points). The first two teachers began the intervention phase after six baseline data points had been established. The intervention start points for the remaining teachers were dispersed by one week. This resulted in a shorter baseline phase for the initial pair of participants and longer baseline phases for the second and third groups of participants. Previous single-case design studies with larger sample sizes (e.g., $N > 6$) have used the same method assigning two or more participants to the same baseline phase length (Barlow et al., 2009).

Teacher survey administration. The following sections provide information regarding the administration of measures prior to the intervention, during the baseline and intervention phases, and post-intervention (i.e., one month follow-up).

Administration of measures. The assessment schedule employed in the study is summarized in Table 4. Prior to beginning the intervention at the baseline phase, all 8 participants completed the self-report measures including a demographic questionnaire and well-being measures including SWLS, PANAS, MBI-ES, PSS-10, and FS. Participants then completed the SWLS and PANAS measures every-other-day using a pre-established schedule. The first two participants completed the measures two weeks (i.e., 6 total responses) prior to entering the intervention, while the next three participants completed the measures three weeks (i.e., 9 responses) prior to the intervention and the last three participants completed the measures four weeks (i.e., 12 responses) prior to the interventions. All participants completed the measures during the two-week intervention phase and for subsequent periods following the intervention completion. Participants then completed the same measures including the SWLS, PANAS, MBI-ES, PSS-10, and FS post-intervention and one-month follow-up assessment. Additionally,

participants completed the IRP-15 following the intervention’s completion to access treatment acceptability.

Table 5

Assessment Schedule

Measure	Time Point					
	Screening	Pre- Intervention	Baseline Time Series	Intervention Time Series	Post- Intervention	Follow-Up (1 month post- intervention)
Demographic survey		X				
SWLS	X	X	X	X	X	X
PANAS		X	X	X	X	X
MBI-ES		X			X	X
PSS-10		X			X	X
FS		X			X	X
Journal				X		
IRP-15 adapted					X	

Note. FS = Flourishing Scale (Diener et al., 2009); IRP-15 = Intervention Rating Profile for Teacher (Martens, Witt, Elliott, & Darveaux, 1985); MBI-ES = Maslach Burnout Inventory-Educator’s Survey (Maslach et al., 1996); PANAS = Positive and Negative Affect Scale (Watson, Clark, & Tellegan, 1988); PSS-10 = Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983); SWLS = Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffen, 1985)

Pre-treatment assessments. Prior to completing the first set of self-report measures (after the initial screening process), participants read and agreed to participate via reviewing and signing a consent form (see Appendix E). The consent form described the specific components of the research study, the extent of participation involved, potential benefits and risks, procedures taken to protect the participants’ responses and identity, and included information regarding the researcher, supervisor, and the University’s Institutional Review Board contact information. Participants were also informed that they could withdraw from the study at any time without risk of penalty. Participants elected to participate by checking “I have read the informed consent and

agree to participate”; they also had the option to check “I have read the informed consent and do not wish to participate.”

Upon completion of the consent form, the PI provided instruction in how to complete the Likert-style survey items by walking each participant through an example item. Teachers then independently completed the baseline surveys via paper-pencil, which took approximately 30 minutes. To control for order effects, the measures presented to the participants were counterbalanced, such that four different versions of the survey packet were administered. The PI was available at all times to answer questions and monitor participants’ progress throughout the completion of the measures. Once the surveys were completed, the participant was notified of any skipped items or response errors (i.e., selected two responses for one question), and asked to complete or correct items to minimize missing data.

Intervention implementation. After completion of the initial baseline measures, the PI randomly assigned participants to specific treatment phases. Each teacher entered the intervention phase in a randomized order, with three entrance points being spaced one week apart. Specifically, two participants began the intervention first, then three more participants entered a week later, and finally the last two participants entered the intervention phase one week after the second group of participants. Although some researchers find it ideal to establish stability in the data before entering the intervention phase, the natural time constraints within the school environment restricted the amount of time available to provide lengthy baseline phases. Because external validity is highly valued by the researcher in order to demonstrate intervention effects within the school environment, it was decided that an established fixed baseline and intervention phase would be best to ensure that the participants received all elements of the designed intervention. Throughout the intervention phase, participants tracked their levels of

happiness both in terms of global life satisfaction and emotional states that were measured using time-series data collected from the SWLS and PANAS. Additionally, participants completed a daily intervention log regarding how they used ‘a signature strength in a new way’; this log was provided by the PI (refer to Appendix G). Each journal also included an additional space for participants to provide qualitative information regarding their feelings throughout the applications of strengths. After the intervention phase was completed, each participant received a \$25 gift card.

Follow-up phase. The follow-up phase incorporated time series data that began immediately upon completion of the intervention and continued until all participants completed the intervention timeline. Participants also completed follow-up paper-pencil measures the day after the intervention was completed (post-intervention time point) and at one-month following the intervention’s termination. Participants were also asked to continue completing self-report measures every-other-day to track their progress. At the completion of the intervention phase and one-month follow-up, the PI met with each participant independently and administered the packet of self-report surveys. While participants were allowed to skip or leave any question blank intentionally, they were notified if any questions were left blank or answered incorrectly upon completion of the survey. The PI was available to support the participants through the completion of all post-intervention measures. At the end of the collection of follow-up data, all participants received a second \$25 gift card as compensation for completing the study.

Treatment integrity. In order to document that the intervention was implemented as intended, the PI completed a fidelity checklist form (refer to Appendix G) throughout each of the sessions implemented. Each checklist included specific elements of the intervention that were to be completed during a given session. Each item on the checklist had a corresponding column for

the rater to circle Yes or No for the completion of that element of the intervention session. The columns were then added for a total number of completions or non-completions. The checklists also included blank spaces for the integrity checker to record comments or reactions about the session and suggestions for improvement. Additionally, the checklist also included space to record the length of time for each session and if the session felt rushed. This measured the PI's level of adherence to delivering the intervention as intended. The participants also completed journal entries regarding how they utilized their strength in a new way (see Appendix G). The participant's journal entry was collected in a Microsoft Excel file if completed through Qualtrics or collected through paper-pencil form and contained the start and end dates of the journals for each participant. Participants were notified through email to complete journal logs every other day and visited by the PI at least once weekly to review current progress and to complete survey measures.

Treatment acceptability. To evaluate treatment acceptability (i.e., the degree to which teachers found the intervention beneficial), the participants completed an adapted form of the Intervention Rating Profile-15 (IRP-15; Martens & Witt, 1985) which can be viewed in Appendix G and further described under the **Study Instruments** section. The adapted survey was completed by the teachers along with the completion of the final post-test measures. The IRP-15 also included open-ended questions to provide further feedback regarding the intervention's feasibility. Participants could thus provide information regarding what they liked and disliked about the intervention, what they learned through participation, feasibility of the intervention, and suggestions for future improvement.

Exclusion criteria. Participants who failed to complete at least three data entries based on pre-established criteria (i.e., participant did not complete Qualtrics data assessment on assigned

date or completed measures retrospectively such as the next day) or were absent for three or more school days during the intervention phase (i.e., complete day of instructing students in the classroom) were deemed ineligible to continue the study. Of the 8 total participants who took part in the study, one participant's time series data was considered invalid given that the participant completed the Qualtrics data assessments retrospectively (i.e., one day after the assigned date) for eight time points. This participant's completed data and graphs can be reviewed in Appendix X. This participant's pre-, post-, and follow-up data was still maintained for analyses because it was completed in-person with the PI.

Study Instruments

Initial screening measures. The *Satisfaction with Life Scale* (SWLS; Diener, Emmons, Larsen, & Griffen, 1985) was used to screen eligible participants. The SWLS (see Appendix K) is a 5-item self-report measure that is designed to assess satisfaction with life as a whole (i.e., global satisfaction) and measures the cognitive component of subjective well-being. Participants rate their satisfaction with each item using a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*), with 4 as (*neutral*). Scores on these five-items are summed to create a total life satisfaction score and can be either left as a total or averaged. Overall, higher scores indicate higher life satisfaction with life. Although all scores should be considered continuous, there are cutoff scores Diener has recommended as benchmarks. A sum score of 20 is regarded as "Neutral" while the highest range of scores (i.e., 31-35) are deemed as "Extremely satisfied" and 5-9 identified as "Extremely dissatisfied." Example items include, "I am satisfied with my life" and "So far, I have gotten the important things I want in my life."

In an initial sample of 176 adults (age unspecified), Diener et al. (1985) reported a coefficient alpha of .87, indicating a strong internal reliability, and a 2-month test-retest stability

of .82. Pavot and Diener (1993) also demonstrated the scale's high internal consistency (i.e., coefficient alphas ranging from 0.79 to 0.89) through six separate studies, while more recent research by Adler and Fagley (2005) and Steger, Frazier, Oishi, and Kaler (2006) report coefficient alphas of 0.87 and 0.86. Additional research has also compared SWLS to measures of emotional distress such as the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and found a moderate to strong negative correlation ($r = -0.55$ to -0.72 ; Blais, Vallerand, Pelletier, & Brière, 1989; Schimmack, Oishi, Furr, & Funder, 2004). Regarding support for construct validity, prior research with adults has yielded adequate correlations with other measures of life satisfaction including the Andrews/Withey Scale, Fordyce Global Scale, and other forms of interview rating scales (Pavot & Diener, 1993). This measure is sensitive to change as a result of intervention efforts (Seligman et al., 2006; Fredrickson et al., 2008; Mitchell et al., 2009; Page & Vella-Brodrick, 2013).

Pre-intervention measure. Prior to beginning the intervention, each teacher completed a demographic questionnaire (see Appendix H). The questionnaire collected the teacher's demographic data including age, gender, race, ethnicity, number of years of teaching experience, grades taught, current class size, and highest level of education obtained. Some items included on the demographics form included multiple choice answer options or fill-in the blank.

Outcome measures. The tools used to measure the dependent variables of subjective well-being (i.e., life satisfaction, positive and negative affect) as time-series data are described below. Additional pre- and post-test measures evaluated emotional distress, including teacher burnout and positive functioning.

Time series data. Time series data were collected every other day during baseline, intervention, post-intervention phases. A data series is "a set of repeated measurements...that can

be applied to different behaviors measured for a single participant” (Horner & Odom, 2014; p. 40). The data were collected through an online resource (i.e., Qualtrics) to provide easement in data collection. The SWLS and PANAS were used for time series data collection and are further described below. Additionally, both the SWLS and PANAS measures were aggregated to determine SWB values for each individual (c.f. Page & Vella-Brodick, 2013, who summed the SWLS and PA scores and subtracted NA scores, in line with results of a principal components analysis that indicated these three variables loaded on one factor).

Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffen, 1985). The SWLS is described above under **Screening**. Additional research suggests that the SWLS can detect change over time based on specific life events (i.e., family death, counseling, promotion, etc.). The PI also adapted this measure to evaluate life satisfaction related to the work domain with the lead developer’s permission (see Appendix L). Prior studies have adapted the SWLS to measure specific domains including overall health and relationships in a similar manner.

Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegan, 1988). The PANAS is a 20-item self-report measure of individual’s experience of both positive and negative emotions. The measure is purported to appraise the affective dimensions of subjective well-being: Positive Affect (10 items; e.g., “In the past few weeks; week; day, I have felt *excited*.”) and Negative Affect (10 items; e.g., “In the past few weeks; week; day, I have felt *distressed*”). The scale asks participants to rate on a 5-point scale from 1 (*very slightly or not at all*) to 5 (*extremely*) how strongly they feel a variety of positive (e.g., proud, interested, cheerful) and negative (e.g., irritable, upset, distressed) feelings and emotions. The measures can evaluate affect at varying time periods that range from state affect (i.e., how respondent feels right now) to trait affect (i.e., how respondent feels in general). A Positive Affect score is calculated by

adding the scores on items 1, 3, 5, 9, 10, 12, 14, 16, 17, and 19 with scores can ranging from 10 – 50 (i.e., higher scores representing higher levels of positive affect). A Negative Affect score is calculated by adding the scores on items 2, 4, 6, 7, 8, 11, 13, 15, 18, and 20. Scores range from 10 – 50 with higher scores representing higher levels of negative affect.

Time series data collected through online surveys on an every-other-day basis measured participants' state affect. Directions were modified to reflect that the duration of time participants were asked to reflect on her emotional experience within the past day (i.e., indicate to what extent you have felt this way during the past day). However, pre-, post-, and follow-up data collected through paper-and-pencil surveys specified a more broad range of days for participants to evaluate their emotional state (i.e., indicate to what extent you have felt this way during the past few days). Baseline scores of the paper-and-pencil administration and first time point of time series data are not directly comparable due to the differences in (a) directions (reflective of the past day versus past few days), (b) data collection method (in-person vs. online), and dates administered (baseline in-person surveys were administered an average 3 days before the first online administration; post-intervention in-person surveys were administered an average of 1 day after the last intervention phase online administration. A letter provided by the American Psychological Association (APA) to use the measure both through paper-and-pencil and electronic formats can be found in Appendix N.

In prior research in which participants reported affect in a short interval of time, Cronbach's alpha for the Positive Affect ranged from .86 to .90 and from .84 to .87 on the Negative Affect scale (Watson et al., 1988). In a sample of 101 adults (age unspecified), test-retest reliability over an eight-week was .68 for Positive Affect and .71 for the Negative Affect. Strong internal validity was also demonstrated (factor loadings for each item on the two scales

were above .50) and good convergent validity with other mood scales (i.e., Diener, Emmons, Larsen, & Griffin, 1985; Stone, Hedges, Neale, & Satin, 1985) with correlations ranging from .76 and .92.

Flourishing Scale (FS; Diener et al., 2009). The FS (see Appendix P) is an 8-item measure that is designed to evaluate a respondent's self-perceived success in various elements of life including relationships, self-esteem, purpose, and optimism. An overall psychological well-being (PWB) score is calculated based on the respondent's total score provided for each item using a 1 to 7 scale (1=*Strongly Disagree*; 7=*Strongly Agree*). Sum scores can range from 8, the lowest possible, to 56, the highest PWB possible. A high score demonstrates that the individual has many psychological resources and strengths. Example items include "My social relationships are supportive and rewarding" and "I am engaged and interested in my daily activities."

Diener et al. (2009) found both the reliability and validity of the FS measure to be satisfactory when evaluated utilizing 689 respondents (468 female; 175 male) from college universities (mean age not provided). The researchers reported the Cronbach's alpha to be .87 with a temporal stability at .71 after a 1-month follow-up test-retest. The measure also demonstrated high convergent validity for the total score with other measures of well-being including Ryff's Scales of Psychological Well-Being, Deci and Ryan's Basic Need Satisfaction in General Scale (.78 and .73), in addition to the Satisfaction with Life Scale (.62).

Maslach Burnout Inventory-Educator's Survey (MBI-ES; Maslach et al., 1996). The MBI-ES (see Appendix R) is an extension of the Maslach Burnout Inventory (Maslach & Jackson, 1981) and one of the most common instruments to measure teacher-specific burnout (Byrne, 1991). The only alterations of the MBI-ES from the original measure include word changes such as "recipient" to "student" (Maslach et al., 1996). The self-report measure contains

22 items on 7-point Likert-scale ranging from 0 (*never*) to 6 (*every day*). The measure incorporates three subscales that include: emotional exhaustion (i.e., levels of fatigue based on depleted emotional energy; 9 items), depersonalization (i.e., exhibiting indifferent and/or negative feeling towards students; 5 items), and personal accomplishment (i.e., feelings of valuable contributions towards students' development; 8 items) that align with Maslach's *Theory of Burnout* (Maslach et al., 1996). Each of the subscales is analyzed independently. Burnout is indicated by high scores on the emotional exhaustion and depersonalization subscales and low scores on the personal accomplishment scale and are observed on a continuum (Iwanicki & Schwab, 1981).

Two previous studies have demonstrated the validity and reliability of the MBI-ES (Gold, 1985; Iwanicki & Schwab, 1981). Iwanicki and Schwab (1981) analyzed the MBI-ES with 469 Massachusetts teachers, while Gold (1984) reviewed the measure with 462 California teachers; both studies provided support for the three-factor structure of the measure. Iwanicki and Schwab (1981) report Cronbach's alpha reliability estimates MBI-ES as .90 for Emotional Exhaustion, .76 for Depersonalization, and .76 for Personal Accomplishment, while Gold (1984) reports estimates of .88, .74, and .72, respectively.

Perceived Stress Scale (PSS-10; Cohen, Kamarck, & Mermelstein, 1983; Cohen & Williamson, 1988). The PSS (Appendix T) is a 10-item scale that it purported to measure the degree to which an individual perceives their life as stressful. Based on a 5-point Likert-scale ranging from 0 (*Never*) to 4 (*Very Often*), individuals are to specify how often they have felt their lives are unpredictable, uncontrollable, and overloaded with task demands within the last month. Example items include "In the last month, how often have you felt that you were unable to control the important things in your life?" and "In the last month, how often have you felt

difficulties were piling up so high that you could not overcome them?” When scoring the measure, four items are to be reversed-scored (items 4, 5, 7, 8) due to positive wording and then summed to provide a total perceived stress score with higher scores indicating greater psychological stress. The measure was designed to be utilized within community samples who have at least a junior high school level education.

Previous research has indicated acceptable reliability and validity for the PSS. The original measure, which incorporated 14 items, demonstrated adequate internal reliability utilizing three samples groups (i.e., two consisting of college students and one of a community group; Cohen, Kamarak, & Mermelstein, 1983). Coefficient alpha reliability for the PSS consisted of .84, .85, and .86 in each of the three samples. More recent research has found the PSS-10 to also have adequate internal reliability with Cronbach alphas at .78 within the Harris Poll sample, and .91 within the 2006 and 2009 eNation samples (Cohen & Janicki-Deverts, 2012). Utilizing a sample of 82 college students, the PSS demonstrated a strong internal test-retest reliability (correlation of .85) after two days; however, the correlation dropped to .55 for the community sample after six weeks. Cohen, Kamarak, and Mermelstein (1983) also found the measure to have adequate concurrent and predictive validity. The researchers found small to moderate correlations between the number of life events and the PSS in all three samples. PSS was a better predictor of symptomatology for both depression and physical symptoms (correlations ranged from .52 to .76, as well as social anxiety [.37 and .48] for the sample of college students than other life-event scores [i.e., College Student Life-Event Scale and Unpleasant Events Schedule]). More recent research has also found additional support for the internal reliability of the measure (i.e., coefficient alpha of .78).

Intervention Rating Profile for Teachers (IRP-15; Martens, Witt, Elliott, & Darveaux, 1985). The IRP-15 is a 15-item scale that is intended to assess teachers' perceptions of the acceptability of a specific intervention. Items are designed to address different aspects of intervention acceptability with each item rated on a 6-point Likert scale ranging from *Strongly Disagree* to *Strongly Agree*. Higher scores on the measure indicate a higher acceptability in regards to the intervention appropriateness, efficacy, and feasibility within the classroom context. Example items include "I would suggest this intervention to other teachers" or "I feel like this intervention was beneficial." This researcher adapted the measure by removing questions irrelevant to the study at hand, due to the fact that the measure is typically used to evaluate interventions that address a child's behavior rather than a teacher's behavior. The PI also provided additional open-ended questions to collect participants' feedback regarding the intervention's utility. The original IRP-15 consists of one primary factor with items that include loading ratings from .82 to .95. The measure also has reported high internal consistency and construct validity with other similar measures (Martens et al., 1985; Martens & Meller, 1989).

Data Analysis

The data collected throughout the study was analyzed utilizing a variety of methods. Data acquired from repeated measures of the dependent variables (i.e., time series data) is displayed on graphs and was visually analyzed. In order to control Type 1 errors, a masked visual analysis (MVA) was conducted which is further described below. Additionally, effect sizes were calculated and inferential statistical analysis (i.e., multi-level modeling) was utilized to examine both group and individual level treatment effects. Pre-, post-, and follow-up measures were also analyzed through both descriptive statistics (i.e., mean, standard deviation, range) and inferential

statistics (i.e., Wilcoxon Rank Sum Test). Information regarding these statistical procedures are described further.

Time series. Multiple baseline data were analyzed employing both descriptive and inferential statistics including visual analysis, nonparametric statistics, masked visual analysis, and multi-level modeling. Each method is described in further detail below.

Visual analysis. Single-case research has conventionally utilized visual analysis as a method to provide an overall description of collected data to determine overall effects (Barlow et al., 2009; Kazdin, 1982). Guidelines established by WWC (Kratochwill et al., 2010) were utilized to establish (a) if a relation between an independent variable and outcome variable exists; and (b) the strength and magnitude of that relation. In order to determine if an inferred causal relation exists, changes in the outcome measure must be determined as a result of the manipulation of the independent variable. WWC specifies that at least three demonstrations of a basic effect at a minimum of three different points in time must be established to deem that a treatment effect is present. An effect is determined if the data pattern in one phase (i.e., intervention phase) is different more than would be expected based on the data collected in the previous phase (i.e., baseline phase).

Kratochwill et al. (2010) have established four steps and six variables in performing visual analysis. The first step involves an analysis of stability (e.g., participant happiness remains consistently within a low range). Once a stable pattern is established, the second step involves assessing how the data function within each phase of the study, i.e., within-phase pattern(s). The third step consists of comparing the data within each phase to determine a predictable pattern of the dependent variables. The baseline and intervention phases were then compared to determine if the implemented strengths-based intervention was associated with changes in the participant's

subjective well-being (life satisfaction, positive affect and negative affect). Finally, the fourth step in visual analysis combines all data gathered within the phases of the study to establish the presence of at least three demonstrations of a treatment effect at different points in time, or more definitively in this study, evidence that there was a positive effect for at least three participants taking part in the strengths-based intervention.

To evaluate specific effects and compare phases in the four steps previously described, six variables were also evaluated. These specific variables include the level (i.e., mean score of the data within a phase), trend (i.e., slope), variability (i.e., range or standard deviation from the slope), immediacy of the effect, overlap, and consistency of data patterns across similar phases. These specific features were examined individually and collectively to determine if a causal relation could be concluded. Comparisons were made across all phases of the design including baseline to treatment, treatment to baseline, treatment to treatment. To determine an immediacy of an effect, a visual analysis of the data was utilized to determine if change was apparent between the last three data points in one phase and the first three data points of the next phase. Immediacy is determined if a rapid change was evidence between phases. The data were also analyzed for overlap which refers to the amount of data from one phase that overlaps with data from the next phase.

Effect sizes. Although visual analysis is a long-standing method in demonstrating intervention effects, the reliability of the method is problematic when effect sizes are not large (Parker, Vannest, & Davis, 2014). An additional descriptive method in single-case research involves determining an effect incorporating the most minimal overlap of data points most often between the baseline and treatment phases (i.e., non-overlap analysis). As described by Parker, Vannest, and Davis (2014), non-overlap analysis are advantageous given that they are

appropriate for data distributions that lack normality or consistent variance as depicted in single-case research and based on interval, ordinal, or binary scales. The nonparametric effect size indexes Nonoverlap of All Pairs (NAP; Parker & Vannest, 2009) and TauU (Parker, Vannest, Davis & Sauber, 2011), were attained for each participant to assess overlap of data across phases.

The nonparametric index, NAP, possesses superlative precision and is highly regarded for use with shorter datasets (Parker & Vannest, 2009). The index is based on previously established dominance statistics including the Mann-Whitney U (MW-U) group test, Kendall's Tau Test of association, and the area under the curve (AUC) from a receiver operator characteristic (ROC) test (Parker, Vannest, & Davis, 2014). NAP is "the percentage of data that improve from A to B or, operationally, the percentage of all pairwise comparisons from Phase A [baseline] to B [intervention phase] showing improvement or growth" (Parker, Vannest, & Davis; p. 141). However, a known limitation of NAP is its insensitivity to trend from baseline within the data which establishes a number of concerns including: unreliability of baseline trend, little consideration for baseline length, an uncertain postulation that trend will continue, counterproductive mean comparisons after the baseline trend is controlled, and artificial ceiling effects with irrational limits to change (Parker, Vannest, Davis, & Sauber, 2011). In order to overcome the limitation of unaccounted trend, Parker and colleagues (2011) established the TauU index which is a distribution free nonparametric technique with high statistical precision-power. In comparison, NAP is best understood as the percent of non-overlapping data compared between two phases, while TauU represents the percent of non-overlapping data minus overlapping data to gain more precision-power (Parker et al., 2014). The calculation of Tau-U

becomes more complex in order to control for trend in the baseline phase; however, Tau-U was calculated in its simplest form within this study.

Masked visual analysis. Through the use of randomization within the experimental design, a masked visual analysis (MVA) or visual permutation test replaced a traditional randomization test in order to control for Type I errors rates (Ferron & Jones, 2006). Upon completion of data collection, two masked visual analysts with proficiency in single-case intervention research but blind to the participants' assignments to each of the three conditions were selected to analyze a visual display depicting all participants' time series data collection without specification of designated phases (i.e., baseline and intervention phases). Participants tracked baseline and interventions phases were separated into individual graphs for the MVA to analyze separately. The visual analysts estimated when each participant entered into the intervention phase (Ferron & Jones, 2006). If the estimations were positioned correctly with true assignments, a p value was calculated. In order to obtain the p value, one was divided by the number of possible assignments (i.e., 105). However, when the estimations did not align correctly with the true assignments, the MVA had one additional opportunity to select the actual assignment. If the estimates did not align after the second opportunity, the null hypothesis of the study was rejected and no treatment effects were assumed to exist. This was conducted for each dependent variable measured using the time-series data collection method (i.e., SWLS, PANAS [i.e., positive and negative affect], and combined subjective well-being indicator). In order to maintain a conservative p value and reduce Type I errors (i.e., incorrect rejection of a true null hypothesis or *false positive*) the typical determining value of significance (i.e., 0.05) was divided by the number of observed dependent variables evaluated through multiple baseline (i.e., 4). Significance was found if the obtained p value was less than the adjusted p value of 0.0125. The

masked visual analyst was provided two chances to determine the correct intervention start points for all participants for each indicator of subjective well-being.

Multi-level modeling. Inferential statistics in the form of hierarchical linear modeling (HLM) was also utilized to combine changes across seven participants. HLM can be used when the data are within a hierarchical structure or values are obtained from single units (e.g., teachers) that are among different groups (e.g., classrooms). Such higher-level statistics can strengthen the analysis of the data given that it provides a more reliable means to establish the efficacy of an intervention and highlight subtle effects of the intervention that other descriptive methods are unable to do. HLM allows the data to be evaluated for both individual and group treatment effects through the implementation of Bayes estimates (Ferron, Farmer, & Owens, 2010), Kenward-Roger method for estimating the degrees of freedom, and confidence intervals. A typical hierarchical linear model is composed of one or more regression equations such that each level is utilized as predictors in describing specific coefficients of the equation(s) of the level (Van Noortgate & Onghena, 2003). Within the analyses, an initial Level-1 model examined the dependent variable data for each of the eight participants separately utilizing the following regression equation:

$$Y_{ij} = \beta_{0j} + \beta_{1j} (\text{condition})_{ij} + r_{ij} \quad (1)$$

Level-2 model will evaluate the variability of data between all participants depicted in the following regression equation:

$$B_{0j} = \gamma_{00} + u_{0j} \text{ and } \beta_{1j} = \gamma_{10} + u_{1j} \quad (2)$$

Overall average treatment effects and individual effects were estimated based on autocorrelation and changes in trend and level. The statistical analyses also allowed the testing of individual differences in patterns of responses over time.

Pre-, post, and follow-up assessments. Pre-, Post-, and Follow-Up intervention assessments (i.e., SWLS, PANAS, FS, MBI-ES, PSS-10) were examined using both descriptive and inferential statistics. Descriptive statistics were evaluated including means, minimum and maximum scores, and standard deviations. Inferential statistics were also obtained utilizing a nonparametric statistical test called the Wilcoxon Signed-Rank Exact Test that is compatible with small sample size and does not require normality. Nonparametric statistical tests, such as the Wilcoxon Signed-Rank Test, are often referred to as ‘distribution-free’ (Sheskin, 2011) tests as they make no assumptions regarding the normality in the population distribution. However, such tests do assume independence of the data and that the data are continuous. The test was used to determine if there is a statistical difference between pre- and post-assessments for all participants, on a given outcome. The Wilcoxon Signed-Rank Test statistic (W^+ , W^-) is calculated by subtracting pre-assessment scores from post-assessment scores. Next, the absolute value of the difference scores are ordered from lowest to highest and each absolute value is assigned a rank from 1 to n with the lowest scores obtaining a rank of 1 and the highest score obtaining a rank of n . Ranked scores are assigned to either a positive or negative sign to match the sign of the difference score. W^+ is calculated by summing all positive ranks, while W^- is computed by summing all negative ranks. Statistical significance is determined by comparing W^+ and W^- scores to W^+_{crit} and W^-_{crit} values.

Ethical Considerations

Considerations and precautions were made to ensure the safety and security of the participant’s rights. Before the start of data collection and delivery of the intervention, the researcher obtained approval from the University of South Florida Institutional Review Board (IRB; see approval letter in Appendix U) and from the Department of Assessment and

Accountability within the school district (refer to Appendix V). All participants within the study were required to sign a consent form that described the purpose of the study, potential risks and benefits of participating, and provided contact information for the researcher, supervisor, and IRB if questions or concerns arose throughout the study process. Teachers were made aware from the initial consent and throughout the study that they could choose to withdraw at any time without penalty.

Additional provisions were implemented to ensure the safety of each participant's identifying information (e.g., name, address, etc.). Each participant was provided an identification code that was utilized throughout data collection. Furthermore, only approved researchers had access to the documents linking participant names and code numbers. All data collected throughout the study were kept in a computer owned by the PI and protected by a password. Only the PI had access to files containing study data. All data will be kept for at least five years after the study is closed through the IRB. Upon completing the study, the computer file containing data linked with participants' names will be destroyed. Prior to the intervention, confidentiality issues and concerns were discussed with the participants. It was expressed to each participant that confidentiality would only be breached if the participants reported that he or she planned to self-harm in which support and mental health counseling would be sought. This, however, did not occur during the progression of the study.

Risks and Benefits

Prior research in the field of positive psychology has established that interventions targeting various positive constructs (e.g., gratitude, character strengths, optimism) have proven to significantly improve levels of happiness and overall mental health for both adults and children. Higher indications of happiness, in turn, result in better outcomes including quality

work performance and productivity, improved health, and reduced physical ailments to name a few. To date, minimal research exists on how an evidence-based, positive psychology intervention used to increase adult happiness and indicators of well-being specifically impact elementary school teachers and their personal wellness. More importantly, such interventions have not specifically targeted personal character strengths. This study provided an initial opportunity to determine if this intervention had a positive impact on teachers' well-being within the school context, which in turn could support a healthier classroom learning environment for both teachers and students.

This research study was considered to pose minimal risks to participants. That means that the risks associated with this study were the same as what would be faced every day. There were no known additional risks to those teachers who took part in this study.

Chapter 4:

Results

This chapter presents the data collected throughout the current study in order to address the three research questions presented below. The purpose of this study was to implement a strengths-based, positive psychology intervention (i.e., ‘Using Strengths in a New Way’) with elementary teachers and to investigate its impact on teachers’ overall subjective well-being and relevant secondary outcomes in regards to emotional stress, burnout, and overall indicators of flourishing (i.e., perceived success in social relationships, self-esteem, purpose, and optimism). Specifically, this study explored the following research questions:

1. To what extent does a strengths-based intervention called *Utilizing Signature Strengths in New Ways* exert a positive impact on elementary school teachers’ subjective well-being, as indicated by:
 - i. Global life satisfaction
 - ii. Positive affect
 - iii. Negative affect?
2. To what extent does *Utilizing Signature Strengths in New Ways* exert a positive impact on secondary outcomes, as indicated by:
 - i. Domains-specific satisfaction, in particular work satisfaction
 - ii. Negative dimensions of mental health, including:
 - a. Perceived stress

- b. Occupational burnout
 - iii. Psychological well-being (flourishing in life)?
3. How do elementary teachers perceive *Utilizing Signature Strengths in New Ways* appropriateness, efficacy, and feasibility?
- i. Enacted implementation schedule (duration, dose)
 - ii. Elementary teachers' perceptions of intervention acceptability?

This chapter begins with a discussion of treatment integrity. Then, descriptive analyses (i.e., visual analysis, nonparametric effect sizes) regarding participants' time series data collected prior to and over the course of intervention implementation for factors related to subjective well-being (i.e., life satisfaction, positive affect, and negative affect) are presented. Additional time-series inferential statistics including visual permutation tests and multi-level modeling for each dependent variable are reviewed. Pre- and post-intervention assessments are then examined using both descriptive and inferential statistics (i.e. Wilcoxon Signed-Rank Exact Test). The chapter concludes with an examination of participants' overall acceptability of the intervention including the appropriateness, efficacy, and feasibility.

Intervention Integrity

Integrity of the intervention was examined by reviewing audio-recorded sessions and completing corresponding fidelity checklists sheets (see Appendix G). A total of 6 graduate students, trained by the PI, reviewed a total of 10 randomly selected sessions for fidelity; thus, approximately 30% of total sessions were examined. Intervention integrity was established by examining the percentage of completed steps for each session, using the pre-established treatment integrity forms. Analysis of the reviewed recorded session indicated that the overall average treatment integrity was 96.6%, and ranged from 75% to 100% with 8 sessions at 100%.

This indicates that the intervention was implemented with high levels of integrity especially given the context of the applied intervention within the school setting which carried some natural limitations (e.g., time constraints, occasional interruptions).

Internal Consistency

Kratochwill and colleagues (2010) state that in order for a single case design study to meet evidence standards, each outcome variable must be measured systematically over time on at least twenty percent of data points in each condition (e.g., baseline, intervention). The measured dependent variables (i.e., life satisfaction, positive affect, negative affect) were evaluated using an indicator of internal consistency (i.e., Cronbach's alpha) for each measured data point across participants. Cronbach's alpha must meet a 0.70 level or higher to be deemed acceptable (Nunnally, 1978). Upon evaluating the complete (5-item) Satisfaction with Life Scale (SWLS), it was found that internal consistency was unacceptable (i.e., ranged from -0.57 to 0.89) suggesting that the measure did not serve as a reliable indicator of life satisfaction. Further review of the data indicated that one-item in particular (i.e., Item 5: "If I could change my life over, I would change almost nothing.") was negatively correlated on a repeated basis with the total score, which is opposite of the intended direction. Other studies have also found the item to have weak convergence with other items in the measure (Pavot & Diener, 2008). Pavot and Diener (2008) acknowledge that while all other items in the scale tend to measure a person's life satisfaction in the present, the fifth item seems to refer to satisfaction with life in the past. This may result in a two dimensional measure that represents varied meanings of life satisfaction. Because this study was focusing on participants' satisfaction with life in the present and due to problems observed in internal consistency with the 5-item measure, the fifth item was removed from the SWLS throughout all analyses. Upon removing the problematic item from the time series data, the

internal consistency increased to a more acceptable level serving as a more reliable indicator of life satisfaction.

Table 6 displayed below provides alpha levels at each time point for each measured dependent variable. Internal consistency for the 4-item version of the SWLS was found to range from (0.63 to 0.94) which indicates questionable to excellent reliability. Results indicate acceptable to excellent internal consistency for positive affect (0.79 to 0.98), while questionable to excellent internal consistency for negative affect (0.59 to 0.93).

Table 6

Calculated Cronbach Alpha Estimates (Time Points 1 – 12) across Participants

Time Series Data Collected from Time Point 1 to Time Point 12

SWB Measures	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
SWLS	0.73	0.78	0.93	0.91	0.94	0.93	0.89	0.94	0.95	0.85	0.94	0.63
PA	0.87	0.94	0.95	0.97	0.87	0.98	0.90	0.95	0.97	0.90	0.94	0.95
NA	0.87	0.63	0.89	0.70	0.67	0.90	0.67	0.84	0.85	0.87	0.70	0.72

Table 7

Calculated Cronbach Alpha Estimates (Time Points 13 – 24) across Participants

Time Series Data Collected from Time Point 13 to Time Point 24

SWB Measures	T13	T14	T15	T16	T17	T18	T19	T20	T21	T22	T23	T24
SWLS	0.68	0.91	0.82	0.84	0.68	0.94	0.88	0.83	0.94	0.89	0.91	0.90
PA	0.86	0.86	0.96	0.95	0.91	0.91	0.91	0.87	0.94	0.97	0.96	0.79
NA	0.75	0.59	0.84	0.84	0.86	0.82	0.93	0.78	0.84	0.89	0.89	0.90

Time Series Data

Time series data were collected from each of the eight participants using an online resource, Qualtrics, three days a week, on an every-other-day basis (i.e., Mondays, Wednesdays, and Fridays). These data attended to participants’ indicators of happiness (i.e., life satisfaction, positive affect, negative affect). In addition, an overall happiness variable was created by first converting all measured subjective well-being indicators (life satisfaction, positive and negative

affect) into z-scores and combining all scores together (i.e., adding the converted life satisfaction and positive affect scores, and subtracting the negative affect score). Results were analyzed by each measured dependent variable (i.e., life satisfaction, positive affect, negative affect, and combined SWB) through visual analyses, masked visual analyses, effect sizes, multilevel modeling, and the participants' interpretation of their data. One participant (Participant 8) was removed from the time series data analyses due to inconsistency in following data reporting procedures. Specifically, rather than completing measures within the established time frame of 3:00PM to 11:00PM, the participant completed the provided measures retrospectively (i.e., the day next) on eight occasions. Participant 8 was a white female teaching kindergarten with six years of teaching experience. Participant 8's graphs can be reviewed in Appendix W.

Visual Analysis

Visual analysis was conducted as an initial method to provide an overall description of collected data to determine overall effects (Barlow et al., 2009; Kazdin, 1982) and to determine if there was evidence of a relationship between the independent variable (i.e., strengths-based intervention) and measured dependent variables and to what degree the strength of that relationship was evidenced. The four-step process for visual analysis outlines by *What Works Clearinghouse* (Kratochwill et al., 2010) were used to determine the overall effects of single case design research. Such analysis included the examination of: (1) baseline patterns to analyze for stability, (2) within-phase patterns, (3) between-phase patterns, and (4) minimal overlap of data between phases. Such analyses were then integrated from the first three steps to determine if there are at least three demonstrations of a basic effect (i.e., positive change for at least three participants) at a minimum of three distinct time points according to standards specified by *What Works Clearinghouse* (Kratochwill et al., 2010). Baseline patterns were first evaluated to

determine each participant's current levels of happiness prior to entering the intervention. Due to the implementation of random assignment to fixed baseline lengths for feasibility purposes (further described in Chapter 3), each participant may have entered the intervention phase prior to demonstrating baseline stability.

Following the analysis of baseline trends, the intervention phase data were examined to discern predictable patterns (i.e., within and between phase) of the dependent variables. Within-phase patterns incorporated level (i.e., mean), trend (i.e., slope) and variability (i.e., range and standard deviation), while between phase patterns consisted of the immediacy of treatment effect, overlap of data between phases, and consistency of data within phases across participants. Baseline and intervention phases were compared to determine if the strengths-based intervention was associated with changes in indicators of SWB (i.e., increases in life satisfaction, positive affect, combined SWB; and/or decreases in negative affect). A basic effect was demonstrated if one phase of data patterning (within the intervention phase) was visibly different than what would be typically expected based on the previous phase of data patterning (baseline phase). The immediacy of an effect was determined by examining the change in level when comparing the first three data points in the treatment phase to the last three data points in the baseline phase. A more convincing basic effect was characterized by immediate changes, fewer overlapping data points, and increased consistency in data patterning. It was expected that there would be an immediate shift in level demonstrated after the first intervention session with the most substantial level change evident at the completion of the intervention. It was also anticipated that such positive changes would also be sustained within the follow-up phase.

Visual analysis results for each participant are discussed for the following dependent variables: life satisfaction, positive affect, negative affect, and combined SWB. Results are

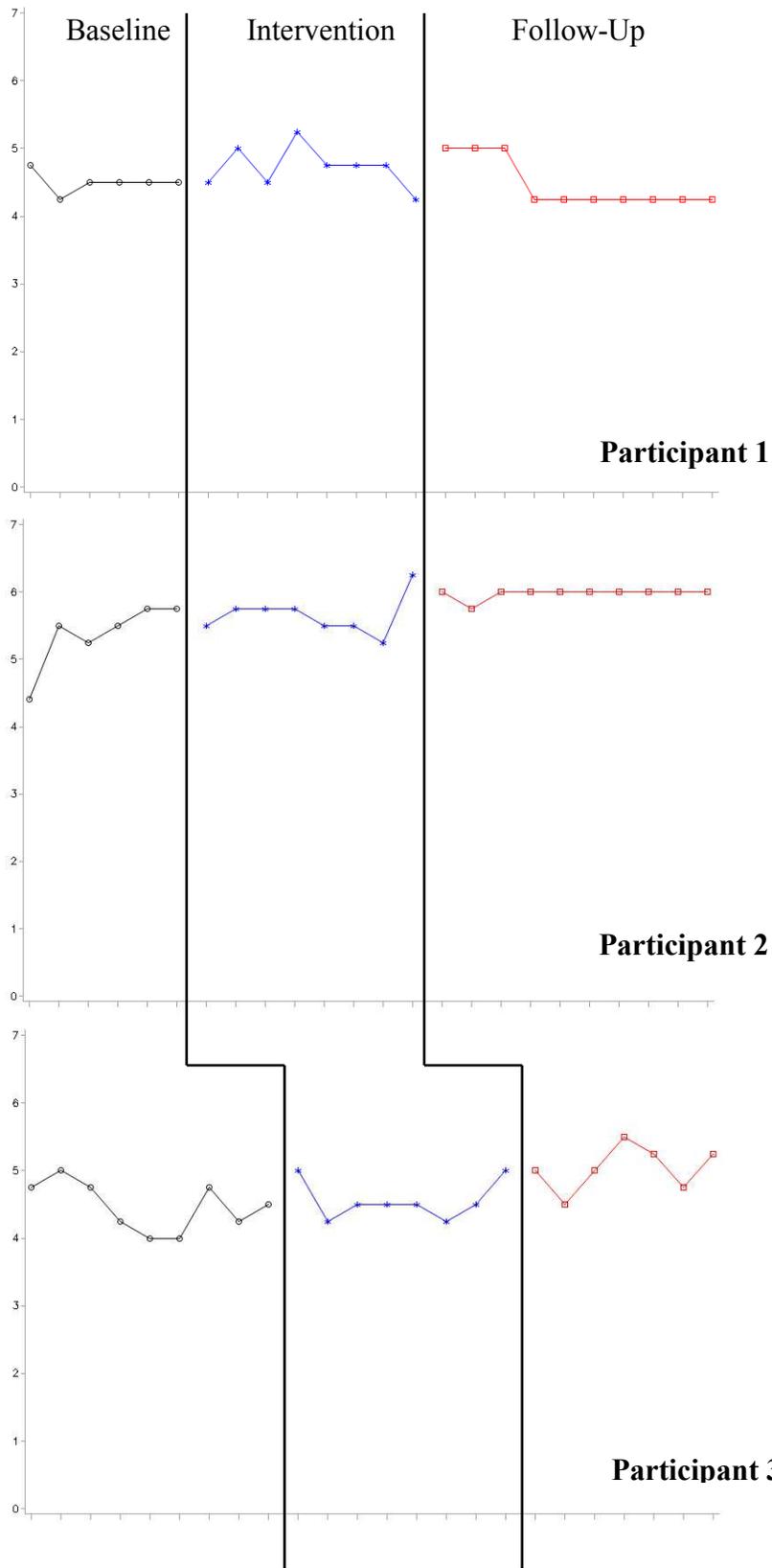
further discussed for each dependent variable, in addition to figures displaying corresponding multiple-baseline graphs across participants for the baseline and intervention phases. Additional descriptive statistics (i.e., mean, range, and trend) and non-overlap effect sizes (i.e., NAP and Tau-U) are also displayed in tables for each dependent variable.

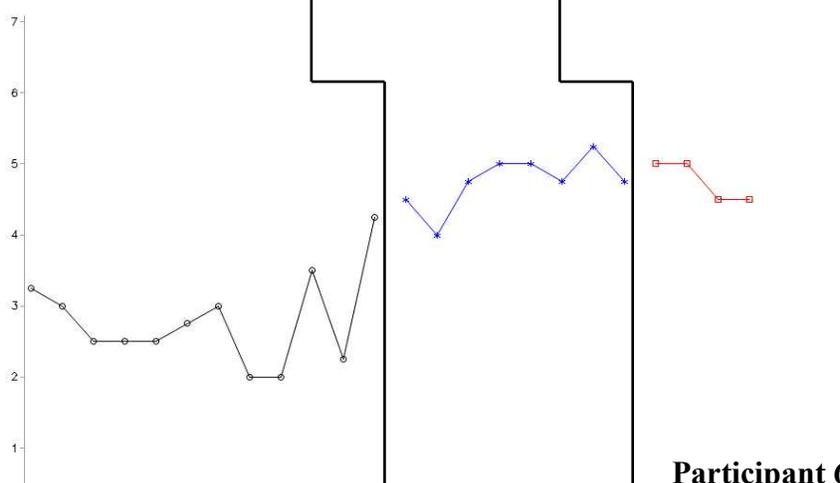
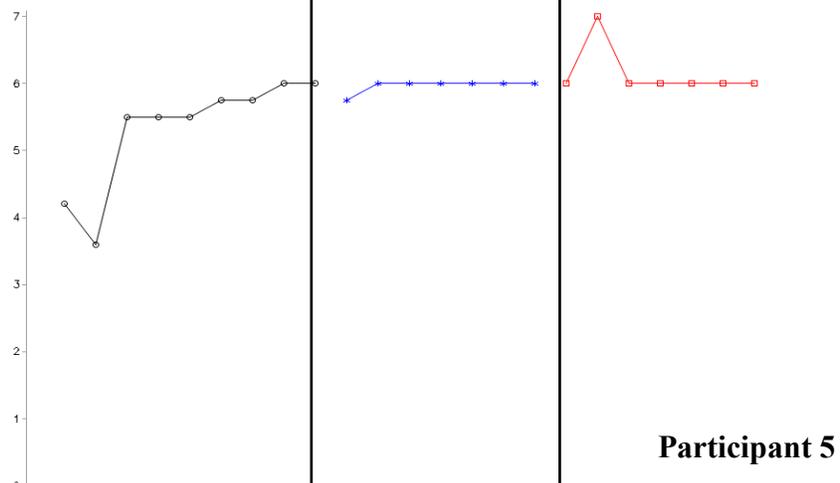
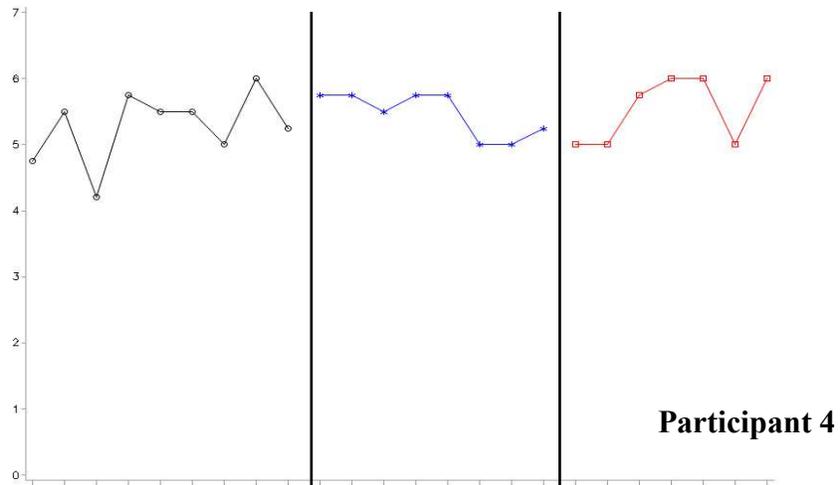
Life satisfaction. A visual display is presented in Figure 3 that illustrates the reported level of life satisfaction for each participant during baseline, intervention, and follow-up phases. Based on visual inspection and comparison of means from baseline to intervention phase, the data indicate an increase in life satisfaction for all participants (refer to Table 8). Adequate stability in baseline was demonstrated by some participants, namely Participants 1, 3, and 7. Participant 2, 4, 5 and 6 demonstrated an increasing trend that mirrored the expected change (i.e., increase in life satisfaction) and based on the baseline stability analyses of Neuman & McCormick (1995) showed that less than 85% of the baseline data were within a 15% range of the average of all data points during baseline.

When baseline and intervention levels were compared, mean levels of reported life satisfaction were higher during the intervention phase for all participants when compared to baseline (see Table 8) with the largest mean difference evidenced by Participant 5 (5.31 to 5.96), Participant 6 (2.79 to 4.75), and Participant 7 (4.79 to 5.09). Positive trends in the direction of the expected behavior change were demonstrated within the intervention phase data for all participants except for Participants 1 and 4 who exhibited slight downward trends during the intervention phase. Participant 7 displayed the most dramatic shift in trend from baseline to intervention (-0.07 to 0.11). Immediacy level shifts (i.e., comparison of last 3 data points in baseline to first 3 data points in intervention) were also observed for Participant 6 (3.33 to 4.42) and Participant 7 (4.42 to 4.92) from baseline to intervention phases.

At follow-up, participants continued to demonstrate increases in life satisfaction although not as pronounced. The most marked mean level changes were exhibited by Participant 7 (5.09 to 5.81) and Participant 3 (4.56 to 5.04) who exhibited a consistent increase in life satisfaction near the end of data collection. Although a majority of participants continued to demonstrate a positive increase in trend, Participants 1, 6, and 7 showed slight downward trends at follow-up. However, Participant 6 and 7's four data points at follow-up limits overall conclusions that can be made regarding future trajectories in their reported life satisfaction.

Based on overall visual analyses, Participants 1 and 4 seemed to maintain consistent levels of life satisfaction from baseline to intervention without a visible basic effect during either the intervention or follow-up phases. Increases in life satisfaction were evident between phases for Participants 2 and 5; however, conclusions drawn from such shifts in level are limited due to the consistent trend in increased life satisfaction throughout phases, specifically baseline into intervention. Participant 3 exhibited changes in trend from baseline to intervention phase and change in levels during phases, although an immediacy in effect was not present which limits an overall conclusion of a basic effect for that individual. Visual analyses do indicate basic effects during the intervention phase for Participant 6 and Participant 7 as indicated by mean level changes from baseline to intervention, shifts in trend during intervention, and an immediacy effect from baseline to intervention phases. Although, such treatments effects were not sustained at follow-up, conclusions drawn from trend at follow-up are inconclusive due to a limited number of data points.





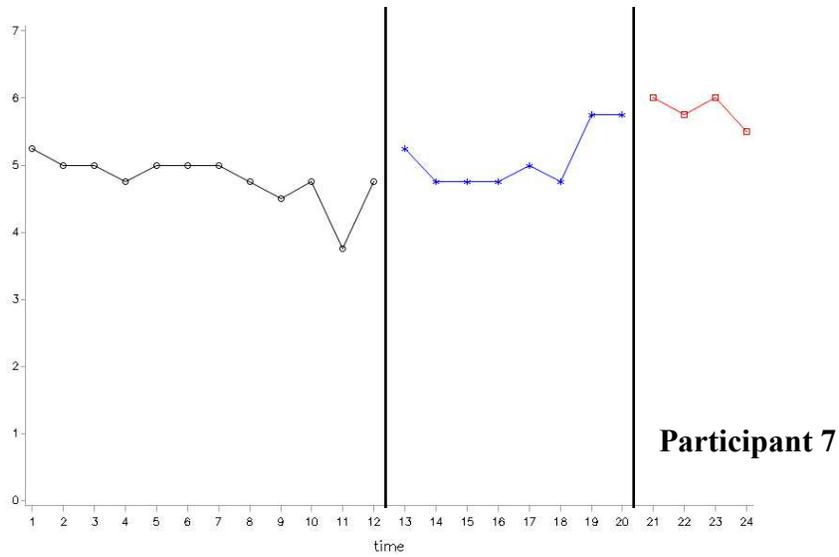


Figure 3. Interrupted Time Series Data for Frequency of Reported Life Satisfaction

Table 8

Descriptive Statistics for Reported Life Satisfaction

	Baseline Phase				Intervention Phase			Follow-Up Phase		
	<i>M (SD)</i>	Range	Trend	Baseline Estimate	<i>M (SD)</i>	Range	Trend	<i>M (SD)</i>	Range	Trend
Participant 1	4.50 (0.16)	4.25-4.75	-0.01	100%	4.72 (0.31)	4.25-4.72	-0.03	4.48 (0.36)	4.25-5.00	-0.10
Participant 2	5.36 (0.51)	4.40-5.75	0.22	83%	5.66 (0.30)	5.25-6.25	0.02	5.98 (0.08)	5.75-6.00	0.01
Participant 3	4.47 (0.36)	4.00-5.00	-0.06	100%	4.56 (0.29)	4.25-5.00	0.01	5.04 (0.34)	4.50-5.50	0.05
Participant 4	5.27 (0.55)	4.20-6.00	0.08	78%	5.47 (0.34)	5.00-5.75	-0.10	5.54 (0.51)	5.00-6.00	0.12
Participant 5	5.31 (0.84)	3.60-6.00	0.25	75%	5.96 (0.09)	5.75-6.00	0.03	6.14 (0.38)	6.00-7.00	0.07
Participant 6	2.79 (0.66)	2.00-4.25	0.02	58%	4.75 (0.38)	4.00-5.25	0.10	4.75 (0.29)	4.50-5.00	-0.20
Participant 7	4.79 (0.38)	3.75-5.25	-0.07	92%	5.09 (0.44)	4.75-5.75	0.10	5.81 (0.24)	5.50-6.00	-0.13

Analyses of data overlap across phases were also calculated to examine the impact of the strengths-based intervention based on each participant's individually reported life satisfaction as indicated by both NAP (i.e., non-overlap of all pairs) and Tau-U (i.e., non-overlap with baseline trend control) nonparametric effect sizes. Table 9 displays the nonparametric effect size values obtained for each participant compared from baseline to intervention phase and from intervention to follow-up phase. Results from baseline to intervention phases indicate that the strengths-based intervention was most effective in increasing reported life satisfaction for Participant 6 with nearly minimal data point overlap (0.98-0.99). Additionally, Participant 5 exhibited satisfactory results with NAP and Tau-U overlap ranges from 0.71 to 0.86, respectively. When comparing the intervention to follow-up phases for each participant, overall results suggest further increases in life satisfaction for Participants 2, 3, and 7 following the two-week intervention. Participant 1 and 6, on the other hand, exhibited decreases in life satisfaction, while Participant 4 exhibited minimal to no effects mirroring conclusions demonstrated in the visual analyses. Based on tentative NAP effect size magnitudes suggested by Parker and Vannest (2009; weak effects: 0 – 0.65; medium effects: 0.66 – 0.92; large or strong effects: 0.93 – 1.00), large effects on life satisfaction were exhibited between baseline and intervention phases for Participant 6, while medium effects were demonstrated for Participant 1, 2, and 5. From intervention to follow-up phases, medium effects on life satisfaction were evidenced for Participants 2, 3, and 7.

Table 9

<i>Nonparametric Effect Sizes for Life Satisfaction (NAP & Tau-U)</i>							
	Participant Number						
	1	2	3	4	5	6	7
	Baseline to Intervention						
NAP	0.73	0.66	0.60	0.61	0.86	0.99	0.63
Tau-U	0.46	0.31	0.14	0.22	0.71	0.98	0.25
	Intervention to Follow-Up						
NAP	0.29	0.86	0.86	0.59	0.63	0.47	0.91
Tau-U	-0.43	0.71	0.71	0.18	0.27	-0.06	0.81

Note. NAP = Nonoverlap of All Pairs

Summary of visual analysis results for life satisfaction. Visual analysis and nonparametric effect size results suggest that the strengths-based intervention had a basic effect on Participant 6's reported life satisfaction. While visual analysis results do suggest a basic effect for Participant 7, results from nonparametric effect sizes do not support this finding. Visual analysis results suggest the possibility of a basic effect for Participant 1, 2, 5, and 7 which is further confirmed by results found by non-overlap effect sizes. However, such results do not meet all criteria to demonstrate a basic effect. Overall results do not meet the threshold of at least three demonstrations of a basic effect at a minimum of three distinct time points (Kratochwill et al., 2010); however, there is partial evidence that an effect was evidenced for some but not all participants.

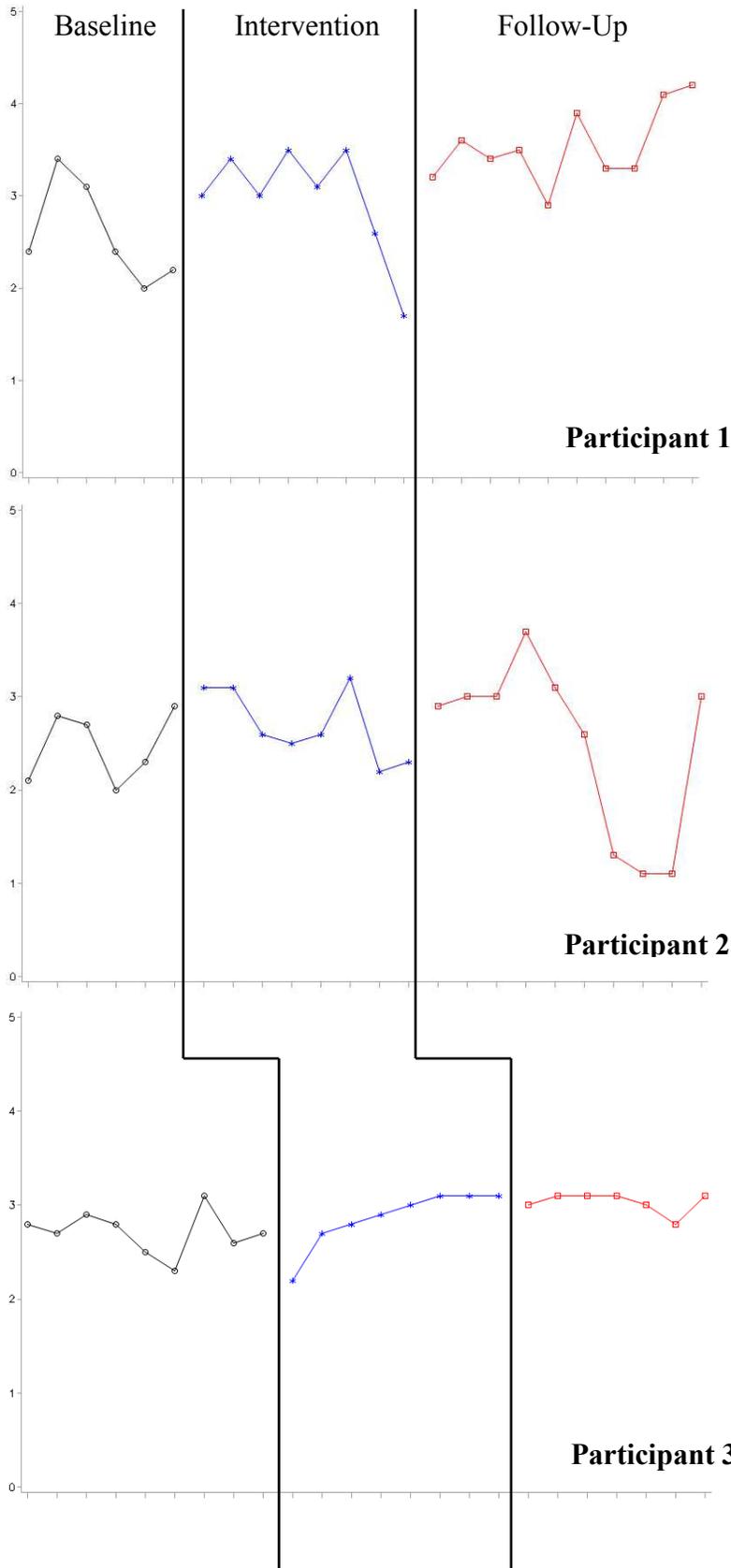
Positive affect. A visual display is presented in Figure 4 that illustrates the reported level of positive affect for each participant from baseline to treatment phase. Based on visual inspection and comparison of means from baseline to treatment phase, the data indicate variability in participants' responses to the strengths-based intervention in regards to experienced positive emotions. Adequate stability was evidenced by Participant 3 who met the established

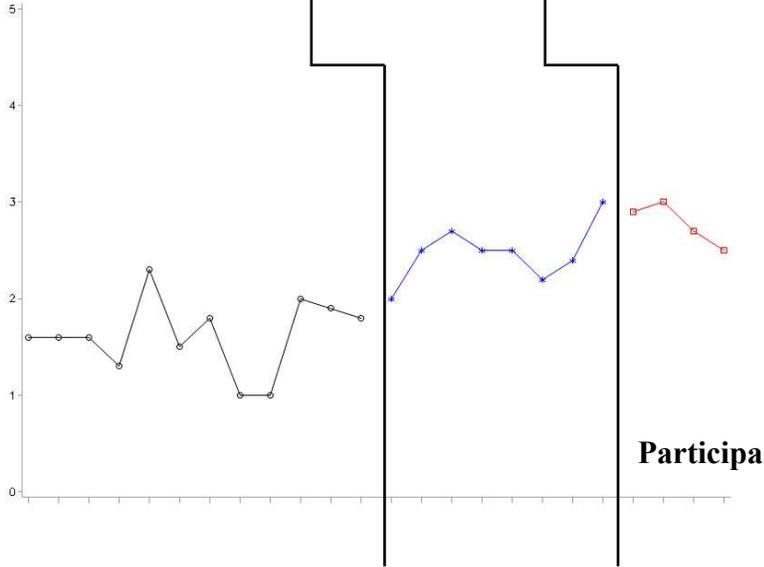
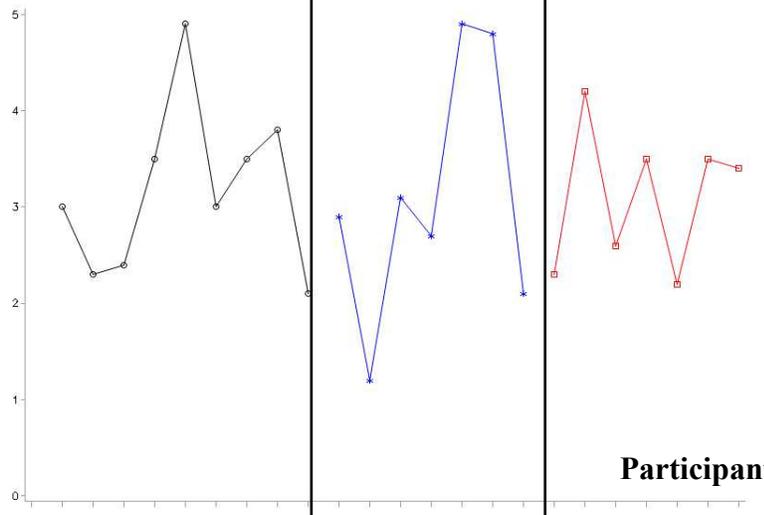
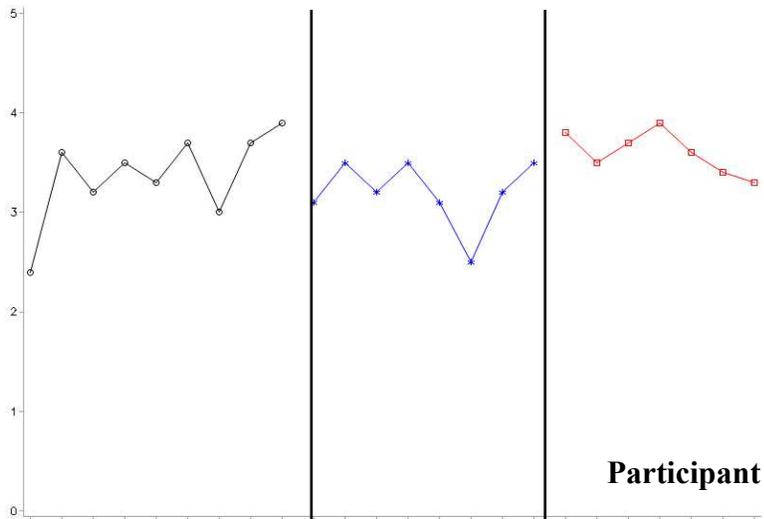
baseline stability criteria. Initial inspection of the data at baseline indicates a slight increase in trend for positive emotions for a majority of participants (i.e., Participants 2, 4, 5, 6, 7) which was in the direction of the expected change. Figure 4 illustrates a downward trend in reported frequency of positive emotions for Participants 1 and 3 in baseline with Participant 1 exhibiting the steepest decrease (slope=-0.17). Baseline stability results (Neuman and McCormick, 1995) also show that baseline data for Participants 1, 2, 5, and 6 did not meet the criteria of at least 85% baseline data points within a 15% range of the average of all data points during baseline.

As presented in Table 10, mean frequency scores between baseline and intervention for positive emotions increased for most participants with the most visible change evidenced by Participant 6 from the baseline to intervention phase (1.62 to 2.48). However, Participant 4 and Participant 5 exhibited a decrease in level change from baseline to the intervention phase which was opposite of the direction that was to be expected. Although this was maintained at follow-up for Participant 5 (3.10 to 3.10), Participant 4's reported positive emotions at follow-up did show an average shift back to previous baseline levels. Level changes from baseline to intervention varied across all participants with a more visible immediacy effect present for Participants 1 (2.2 to 3.13), Participant 2 (2.4 to 2.93), and 6 (1.9 to 2.4). For participants who did not show an immediate level shift, a latency period occurred prior to an observed change with gradual increases visible during the intervention (i.e., one week after intervention implementation) or during the follow-up phase. Although variability in self-reporting of frequency in positive emotions is visible for all participants and is to be expected given the outcome measured, Participant 5 exhibited the largest range in reported positive emotions at baseline (2.10-4.90; $SD = 0.88$) and intervention (1.20-4.90; $SD = 1.05$) phases, although variability at follow-up was reduced (2.20-4.20; $\sigma = 0.74$).

During the follow-up phases, participants who had demonstrated an increased average in positive emotions at intervention either exhibited continued increases (i.e., Participant 1, Participant 3, and Participant 6) or showed slight decreases in reported positive emotions (i.e., Participant 2 and Participant 7). Although trend in the data (refer to Table 10) shows slight decreases for a few participants, the most pronounced decrease was exhibited by Participant 2 near the end of the follow-up phase. However, a rebound in positive affect was evidenced at the final data point.

Based on overall visual analyses, a basic effect is evidenced for Participant 1 and Participant 6 based on a detectable level changes from baseline to intervention, as well as intervention to follow-up phases which suggests a continued long-lasting increase in positive affect for these participants. However, such changes are questionable due to the lack of baseline stability. Additionally shifts in trend and an evident immediacy effect from baseline to intervention are also present for these specific participants. A possible basic effect is present for Participant 3 who exhibited slight increases in reported emotions over time, as well as Participant 2 and 7 whose averages increased during the intervention phases, although such effects were not lasting during the follow-up. Conversely, visual analysis results suggest that the strengths-based intervention had a minimal effect on positive emotions for Participant 4 or Participant 5.





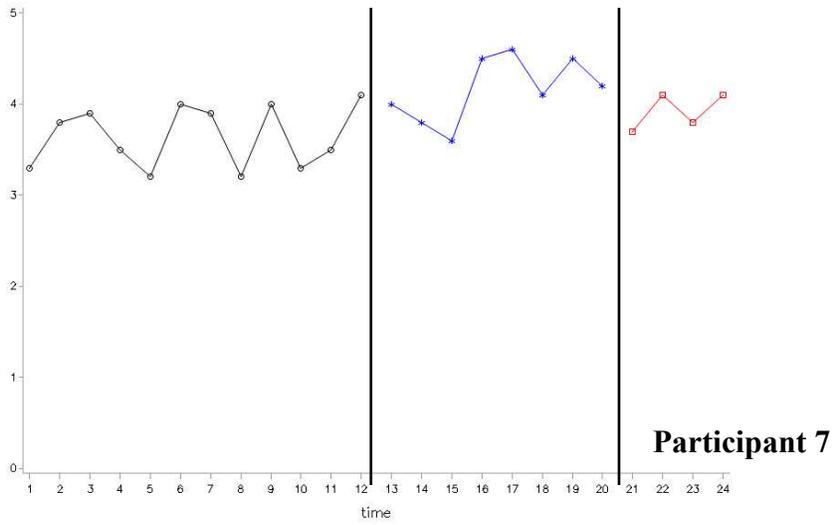


Figure 4. Interrupted Time Series Data for Frequency of Reported Positive Affect

Table 10

Descriptive Statistics for Reported Positive Affect

	Baseline Phase			Baseline Estimate	Intervention Phase			Follow-Up Phase		
	<i>M (SD)</i>	Range	Trend		<i>M (SD)</i>	Range	Trend	<i>M (SD)</i>	Range	Trend
Participant 1	2.58 (0.55)	2.00-3.40	-0.17	50%	2.98 (0.60)	1.70-3.50	-0.14	3.54 (0.41)	2.90-4.20	0.08
Participant 2	2.47 (0.38)	2.00-2.90	0.05	67%	2.70 (0.39)	2.20-3.20	-0.10	2.53 (0.97)	1.10-3.70	-0.18
Participant 3	2.71 (0.23)	2.30-3.10	-0.01	89%	2.86 (0.31)	2.20-3.10	0.11	3.03 (0.11)	2.80-3.10	-0.01
Participant 4	3.67 (0.46)	2.40-3.90	0.10	83%	3.20 (0.33)	2.50-3.50	-0.01	3.60 (0.22)	3.30-3.90	-0.06
Participant 5	3.17 (0.88)	2.10-4.90	0.04	44%	3.10 (1.35)	1.20-4.90	0.24	3.10 (0.74)	2.20-4.20	0.05
Participant 6	1.62 (0.39)	1.00-2.30	0.01	50%	2.48 (0.30)	2.00-3.00	0.06	2.78 (0.22)	2.50-3.00	-0.15
Participant 7	3.70 (0.31)	3.20-4.10	0.02	100%	3.94 (0.31)	3.60-4.50	0.06	3.85 (0.33)	3.40-4.10	0.18

Analyses of data overlap across phases were also examined to determine the impact of the strengths-based intervention on each participant's positive affect as indicated by both NAP and Tau-U nonparametric effect sizes. Table 11 displays the nonparametric effect size values obtained for each participant between the baseline, intervention, and follow-up phases. Overall, results indicate that participation in the strengths-based intervention was most effective in increasing the frequency of reported positive emotions for Participant 6 (0.97-0.95) between baseline and intervention phases. On the other hand, the intervention had minimal to negative effects on Participants' 4 and 5 frequency of positive emotions, which was opposite of the direction to be expected. When comparing intervention to follow-up data, results indicate that some participants exhibited larger increases in positive emotions (i.e., Participant 1, Participant 4, and Participant 6), while other participants maintained the same gains or slightly decreased in the frequency of reported positive emotions. Based on tentative NAP effect size magnitudes suggested by Parker and Vannest (2009; weak effects: 0 – 0.65; medium effects: 0.66 – 0.92; large or strong effects: 0.93 – 1.00), large effects on positive affect were demonstrated between baseline and intervention phases for Participant 6, while medium effects were apparent for Participant 1, 2, 3 and 7. From intervention to follow-up phases, medium effects on positive affect were evidenced for Participants 1, 3, 4, and 6.

Table 11

Nonparametric Effect Sizes for Positive Affect (NAP & Tau-U)

	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7
Baseline to Intervention							
NAP	0.71	0.66	0.71	0.33	0.44	0.97	0.68
Tau-U	0.42	0.31	0.42	-0.35	-0.11	0.95	0.35
Intervention to Follow-Up							
NAP	0.77	0.50	0.67	0.87	0.53	0.80	0.47
Tau-U	0.54	0.00	0.34	0.73	0.06	0.59	-0.06

Note. NAP = Nonoverlap of All Pairs

Summary of visual analysis results for positive affect. Visual analysis results suggest that Participant 1 and 6 exhibited a basic effect. Some visual analysis results suggest the possibility of a basic effect for Participant 2, 3, and 7 which is further confirmed by results found by non-overlap effect sizes. Regardless, such results do not meet all criteria to demonstrate a basic effect. Overall results do not meet the threshold of at least three demonstrations of a basic effect at a minimum of three distinct time points (Kratochwill et al., 2010).

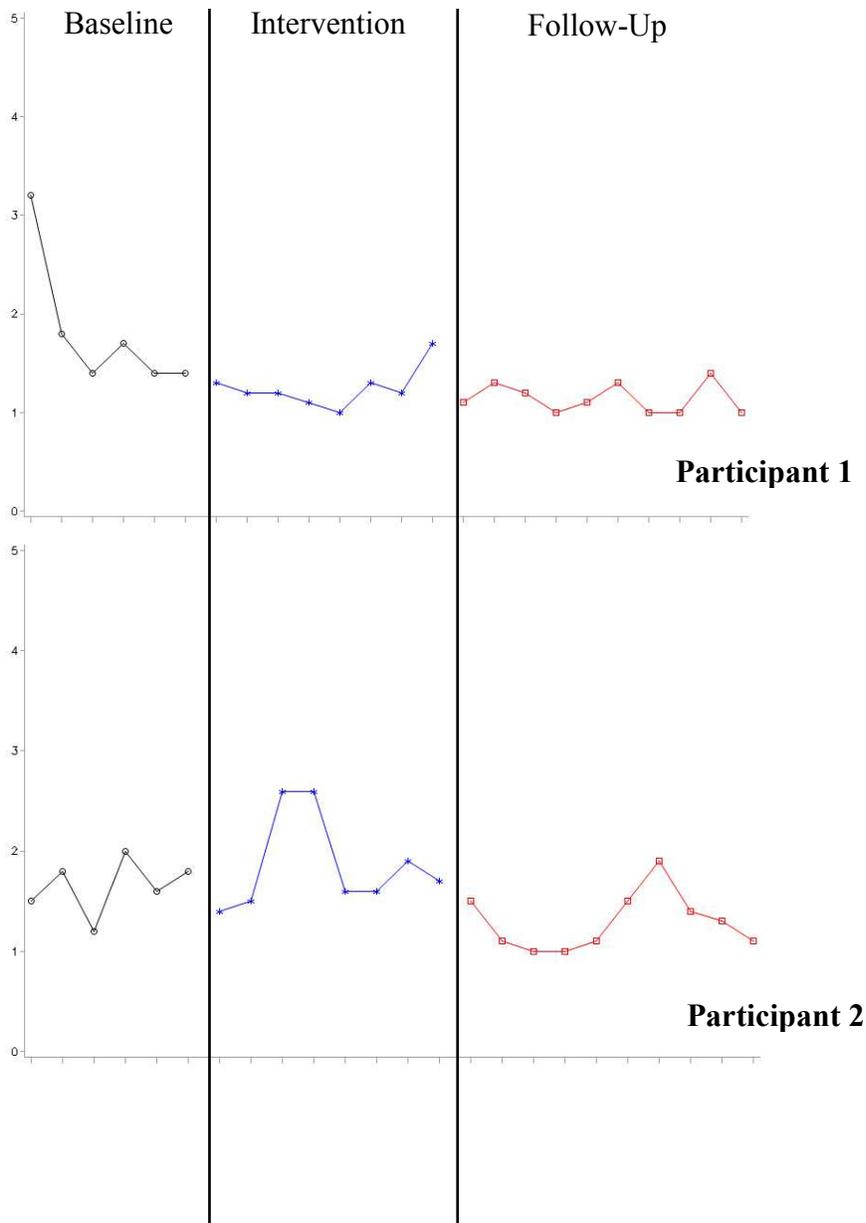
Negative affect. Time series graphs are presented in Figure 5 illustrating the reported frequency of negative emotions for each participant from baseline, intervention, and follow-up phases. Upon initial visual inspection, each participant's data appears to demonstrate a decrease in level change from baseline to intervention phase; however, baseline stability appears to be problematic given that the many of the participants demonstrate a decrease in negative emotions during the baseline which is in the expected direction of the behavior change. Additional baseline stability results (Neuman and McCormick, 1995) suggest that no participant met the criteria of at least 85% baseline data points within a 15% range of the average of all data points during baseline. However, upon further inspection, such trends appear to be present due to an

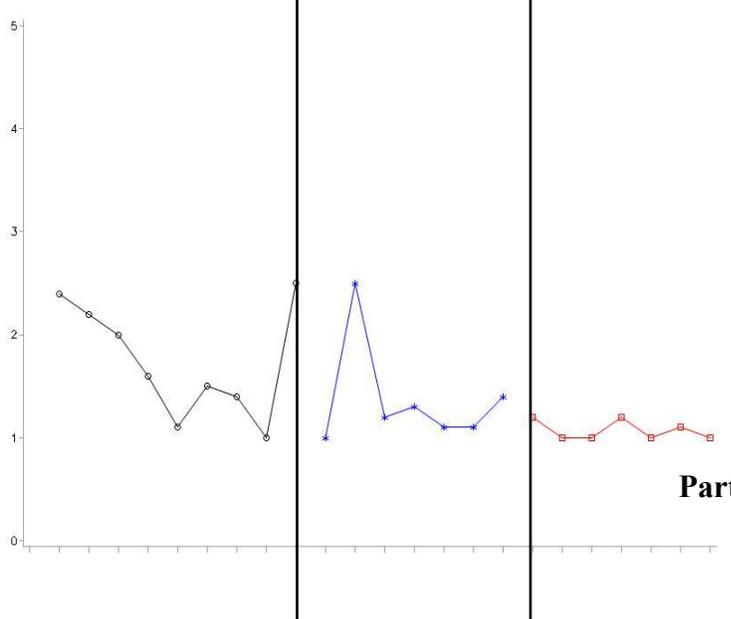
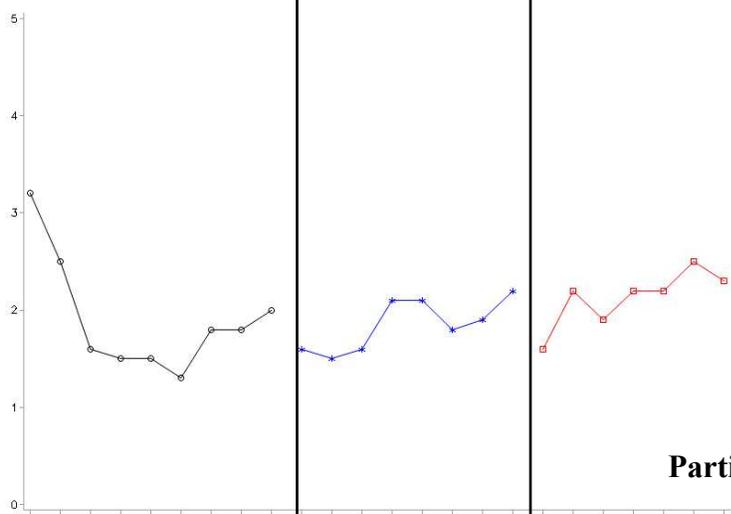
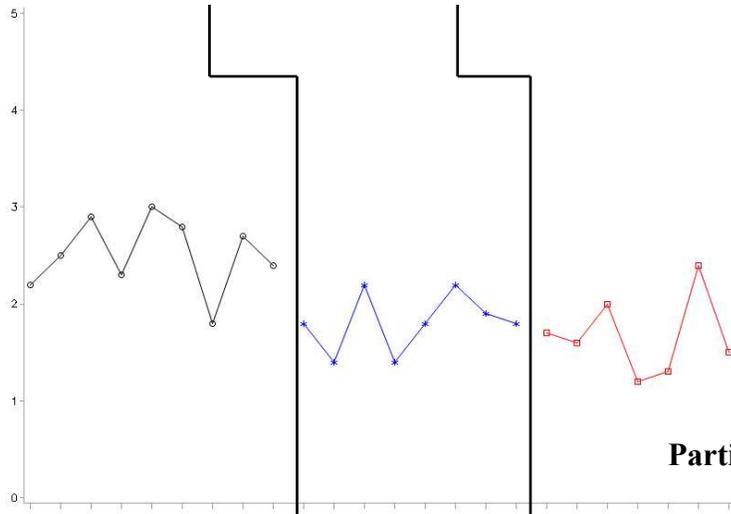
initial high data point for a majority of participants which can be considered outliers compared to other observed data points within the baseline phase. Without the initial data point, all trends in baseline appear to become more stable.

Shifts in mean levels from baseline to intervention phase are also present for all participants (refer to Table 12) except for Participant 2 who exhibited a slight increase in reported negative emotions (1.65 to 1.86). The most significant level change was exhibited by both Participant 1 and Participant 3 whose baseline average decreased 0.57 and 0.70, respectively during the intervention phase. Additionally, an immediacy effect was present for Participant 3 (1.8 to 2.3) and Participant 4 (1.87 to 1.56); however, such a shift should be interpreted with caution for Participant 4 given the visible increase in negative emotions exhibited throughout the intervention and follow-up phases which is opposite of the expected direction. It should be noted that over the course of the intervention phase, it was evident that a majority of the participants ($n=5$) were reaching the lowest level (1.00) for reporting individual levels of negative affect indicating a possible floor effect (i.e., a statistical phenomenon when a majority of participants scores at or near the lower limit of a measure) which limits the possibility of knowing if participants would have reported lower frequency in negative emotions if provided the opportunity.

At follow-up, six of the total seven participants continued to report slight decreases in negative affect which is limited due to floor effects. However, Participant 4's reported level of negative emotion visibly increased over the course of the follow-up phase which is demonstrated by mean level shifts (1.85 to 2.13) and increase in trend (0.11). Overall results of the visual analysis indicate a basic effect for negative affect for Participant 3 as evidenced by a significant level change across all phases, immediacy effect, and changes in trend. However, this result must

be interpreted with caution given instability evident at baseline. A possible basic effect for Participant 1, 5, and 7 is also demonstrated by continuous phase level changes and changes in trend from baseline to intervention. Unfortunately, decreasing trends from baseline to intervention and follow-up phases, as well as visible floor effects limit the overall conclusions that can be made regarding the basic effect on the dependent variable.





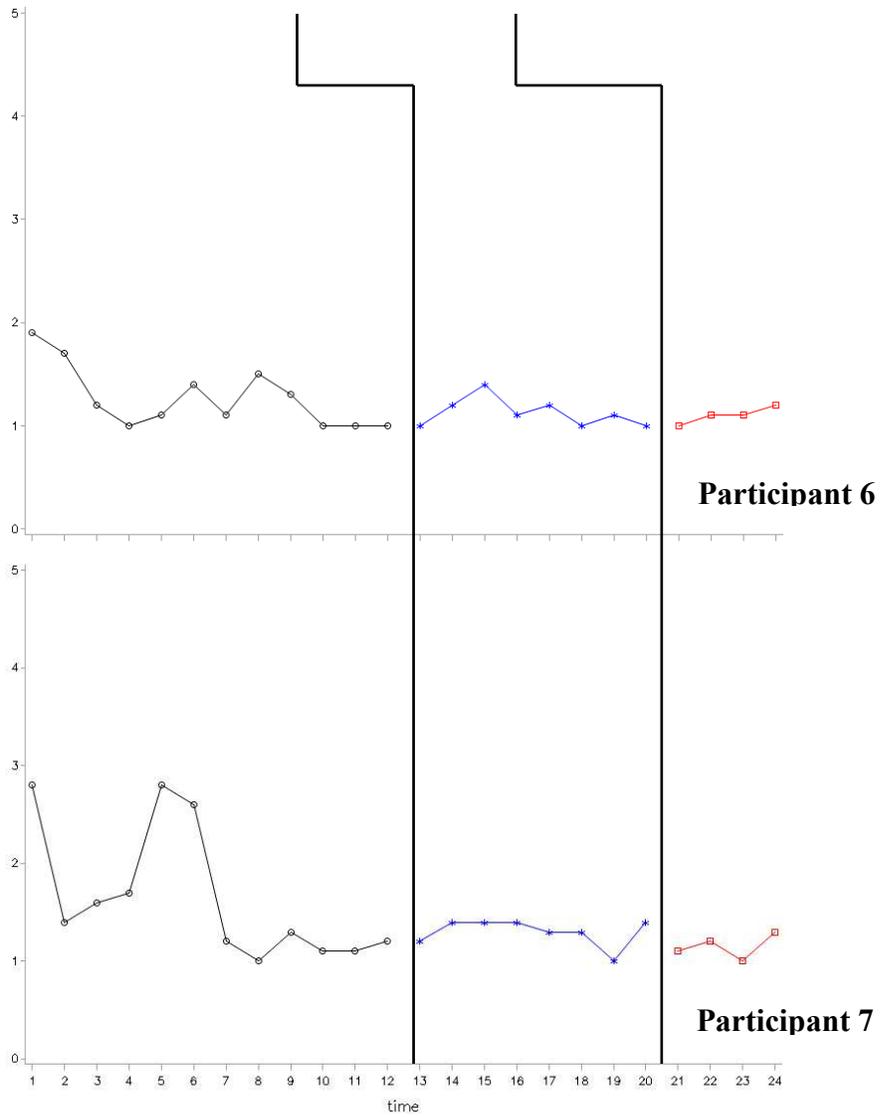


Figure 5. Interrupted Time Series Data for Frequency of Reported Negative Affect

Table 12

Descriptive Statistics for Reported Negative Affect

	Baseline Phase				Intervention Phase			Follow-Up Phase		
	<i>M</i> (<i>SD</i>)	Range	Trend	Baseline Estimate	<i>M</i> (<i>SD</i>)	Range	Trend	<i>M</i> (<i>SD</i>)	Range	Trend
Participant 1	1.82 (0.70)	1.40-3.20	-0.28	33%	1.25 (0.21)	1.00-1.70	0.04	1.14 (0.15)	1.00-1.40	-0.01
Participant 2	1.65 (0.28)	1.20-2.00	0.05	67%	1.86 (0.48)	1.40-2.60	0.00	1.29 (0.29)	1.00-1.90	0.02
Participant 3	2.51 (0.38)	1.80-3.00	-0.01	67%	1.81 (0.30)	1.40-2.20	0.03	1.67 (0.42)	1.20-2.40	0.01
Participant 4	1.91 (0.60)	1.30-3.20	-0.11	33%	1.85 (0.27)	1.50-2.20	0.08	2.13 (0.29)	1.60-2.50	0.11
Participant 5	1.74 (0.55)	1.00-2.50	-0.08	33%	1.37 (0.52)	1.00-2.50	-0.06	1.07 (0.10)	1.00-1.20	-0.01
Participant 6	1.27 (0.30)	1.00-1.90	-0.05	42%	1.13 (0.14)	1.00-1.40	-0.02	1.10 (0.08)	1.00-1.20	0.06
Participant 7	1.65 (0.69)	1.00-2.80	-0.11	25%	1.30 (0.14)	1.00-1.40	-0.01	1.15 (0.13)	1.00-1.30	0.04

Analyses of data overlap across phases were also examined to determine the impact of the strengths-based intervention on each participant’s negative affect as indicated by both NAP and Tau-U nonparametric effect sizes. Table 13 displays the nonparametric effect size values obtained for each participant. Results from baseline to intervention phases indicate that participation in the strengths-based intervention was most effective in decreasing negative affect for Participant 1 (0.93-0.85) and Participant 3 (0.92-0.85), while results for Participant 4 indicate a minimal effect that continued through the follow-up phase most likely attributed to a continuing trend in increased negative emotions following the start of intervention.

Nonparametric effect sizes at follow-up suggest a continued decrease in negative emotions for Participant 2, 5 and 7. Based on tentative NAP effect size magnitudes suggested by Parker and Vannest (2009; small or weak effects: 0 – 0.65; medium effects: 0.66 – 0.92; large or strong effects: 0.93 – 1.00), large effects on negative affect were exhibited between baseline and intervention phases for Participant 1, while a medium effect was demonstrated for Participant 3 and 5. From intervention to follow-up phases, medium effects on negative affect were evidenced for Participants 1, 2, 5 and 7.

Table 13

Nonparametric Effect Sizes for Negative Affect (NAP & Tau-U)

	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7
Baseline to Intervention							
NAP	0.93	0.43	0.92	0.44	0.71	0.61	0.57
Tau-U	0.85	-0.14	0.85	-0.14	0.41	0.22	0.14
Intervention to Follow-Up							
NAP	0.66	0.89	0.64	0.20	0.78	0.52	0.81
Tau-U	0.31	0.78	0.29	-0.61	0.55	0.03	0.63

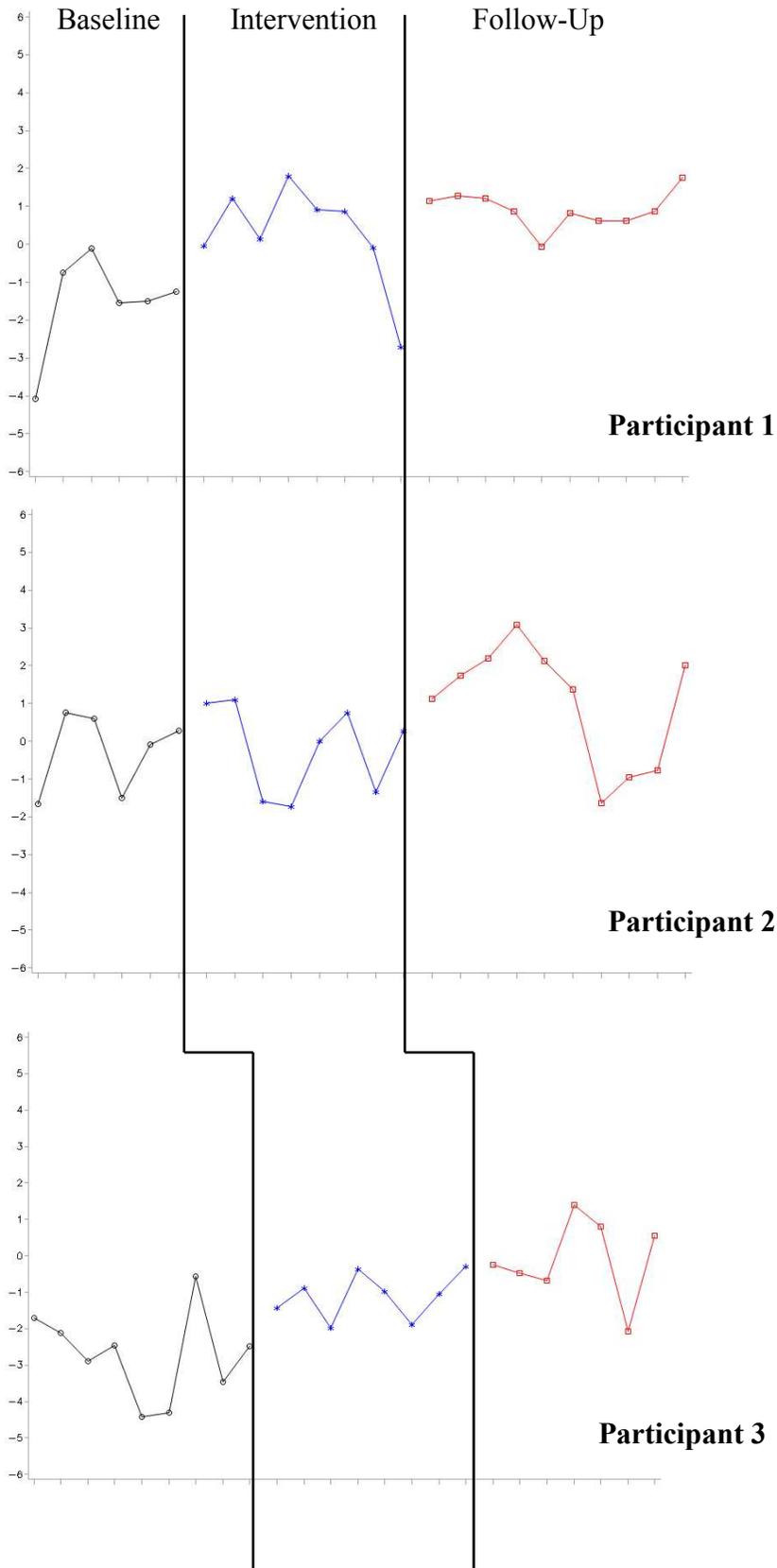
Note. NAP = Nonoverlap of All Pairs

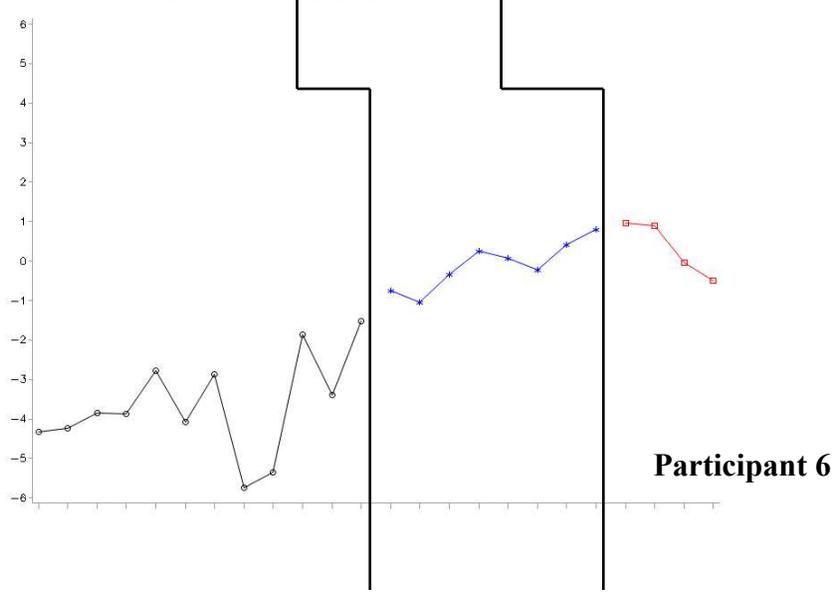
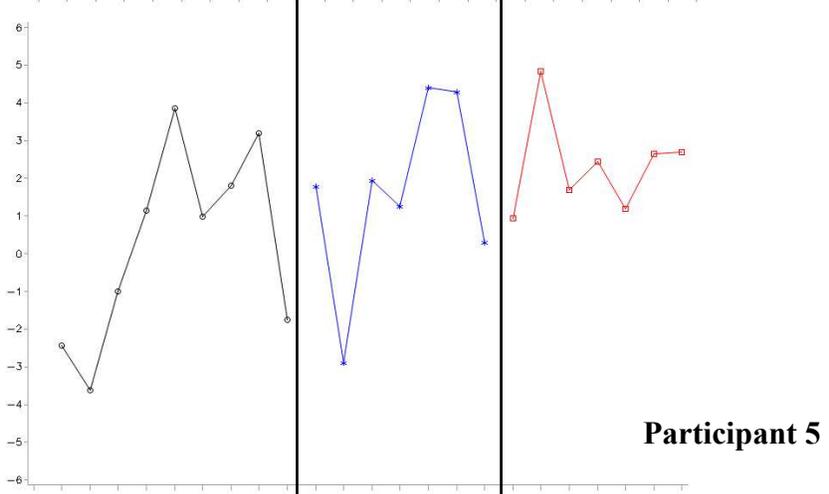
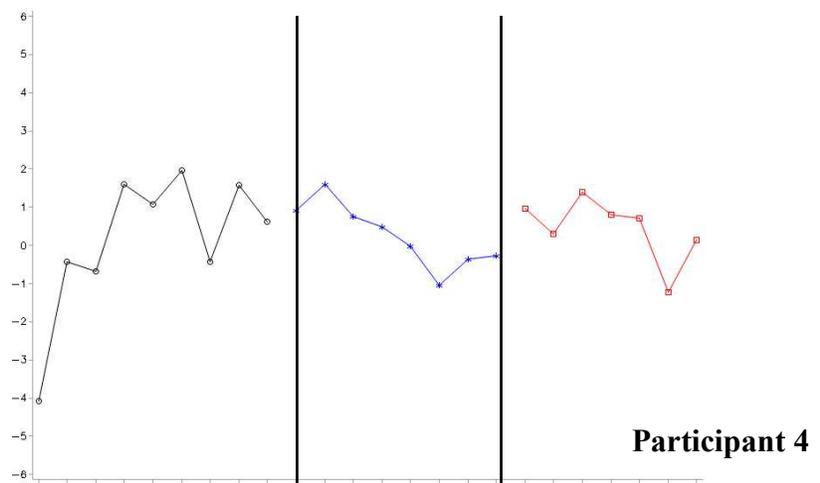
Summary of visual analysis results for negative affect. Visual analysis results suggest that Participant 3 exhibited a basic effect. Additionally, visual analysis results and nonparametric effect sizes do suggest the possibility of a basic effect for Participant 1 and 5; however, these results do not meet full criteria to demonstrate a basic effect. Overall, such results do not meet the threshold of at least three demonstrations of a basic effect at a minimum of three distinct time points (Kratochwill et al., 2010) to conclude that the strengths-based intervention had a treatment effect on participants' reported negative affect.

Combined subjective well-being. A combined SWB variable was created by converting each measured time series variable (i.e., life satisfaction, positive affect, negative affect) into z-scores. To determine a given z-score, the mean, variance, and standard deviation was calculated for each variable among the participants ($n = 7$). To calculate the z-score, the difference between a value in the sample and the mean was computed and then divided by the standard deviation. The new values of reported life satisfaction and frequency of positive emotions were added together and then subtracted by the frequency of negative emotions (Linley et al., 2010; Sheldon & Elliot, 1999). Time series graphs of the variable combined subjective well-being are displayed in Figure 6. Through visual inspection, it is apparent that a majority of the participants demonstrated increases in combined subjective well-being during the baseline phases which is problematic given that this is in the expected direction of the response to intervention. Baseline stability results based on Neuman and McCormick's methodology (1995) also found that no participant met the criteria of at least 85% baseline data points within a 15% range of the average of all data points during baseline. Overall, this suggests baseline instability which limits overall conclusions drawn from the data.

Comparisons of means from baseline to intervention phase ranged from -3.66 to 0.43 during the baseline phase and -1.11 to 2.09 during the intervention phase which suggests substantial level changes in combined SWB for all participants. Although minimal changes in level were exhibited by Participant 2 and 4 (refer to Table 14), other participants' scores shifted up by at least one point during the intervention phase with the largest mean level change exhibited by Participant 6 (i.e., 3.56). An immediacy effect is also visible from baseline to intervention for Participant 1 (-1.43 to 0.43), Participant 3 (-2.17 to -1.44), and Participant 6 (-2.26 to -0.71); however, such effects must be considered with caution given the variability in the participants' data through the baseline and intervention phase. For many of the participants, there also tended to be a similar increase in trend from baseline to intervention limiting the ability to make a definitive conclusion of the intervention's basic effect on participants' combined SWB.

At follow-up, six of the seven participants continued to visibly exhibit increased combined SWB based on mean level changes which ranged from -0.11 to 2.87. Trends in the data either became much more stable during the follow-up phase (i.e., slopes were at or near 0) or began to demonstrate a slight downward trend. It should be noted that decreases in combined SWB factors also corresponded to reported illnesses and teacher evaluations further described by teachers in the Participants' Interpretation of Time Series Graphs section below. Although limited by baseline instability and increases in trend across phases, overall results suggest that the intervention may have impacted some participants' combined SWB, most notably for Participants 1, 3, and 6.





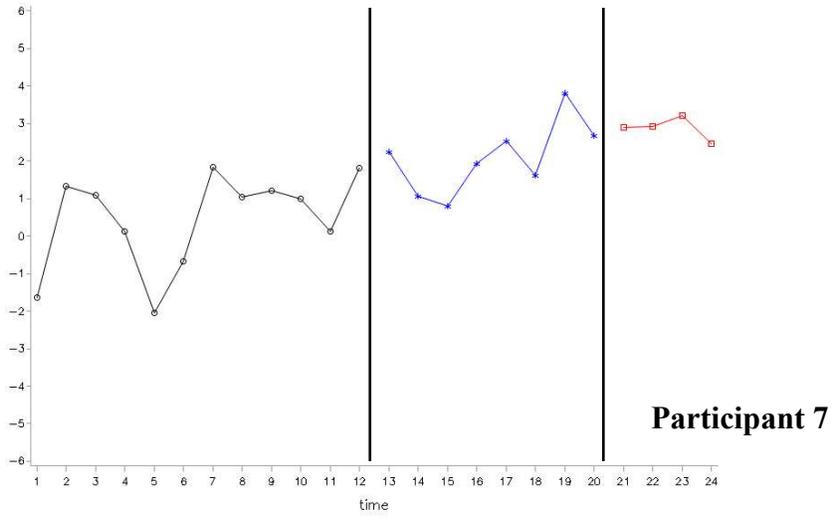


Figure 6. Interrupted Time Series Data for Frequency of Reported Combined SWB

Table 14

Descriptive Statistics for Reported Combined SWB

	Baseline Phase			Baseline Estimate	Intervention Phase			Follow-Up Phase		
	<i>M (SD)</i>	Range	Trend		<i>M (SD)</i>	Range	Trend	<i>M (SD)</i>	Range	Trend
Participant 1	-1.54 (1.36)	-0.11- -4.09	0.30	33%	0.26 (1.37)	1.80- -2.72	-0.28	0.91 (0.49)	-0.08-1.76	0.00
Participant 2	-0.27 (1.06)	-1.67-1.06	0.15	17%	-0.19 (1.19)	-1.72-1.10	-0.10	1.03 (1.59)	-1.64-1.59	-0.24
Participant 3	-2.71 (1.23)	-0.58- -4.42	-0.07	44%	-1.11 (0.63)	-0.30- -1.99	0.08	-0.11 (1.14)	-2.08-1.38	0.02
Participant 4	0.13 (1.86)	-4.09- 1.96	0.43	0%	0.26 (0.85)	-1.06- 1.61	-0.29	0.43 (0.84)	-1.23-1.39	-0.22
Participant 5	0.24 (2.58)	-3.62-3.85	0.48	0%	1.58 (2.49)	-2.90-4.41	0.44	2.34 (1.30)	0.93-4.82	0.01
Participant 6	-3.66 (1.26)	-1.53- -5.73	0.13	33%	-0.10 (0.61)	0.80- -1.05	0.22	0.32 (0.71)	0.95- -0.49	-0.53
Participant 7	0.43 (1.29)	-2.05- 1.84	0.15	0%	2.09 (0.96)	0.81-3.81	0.24	2.87 (0.31)	2.46-3.20	0.10

Analyses of data overlap across phases were also examined to determine the impact of the strengths-based intervention on each participant’s combined SWB as indicated by both NAP and Tau-U nonparametric effect sizes. Table 15 displays the nonparametric effect size values obtained for each participant. Overall results from baseline to intervention phases indicate that participation in the strengths-based intervention was most effective in increasing Participant 1, Participant 3, Participant 6, and Participant 7’s combined SWB which mirrors results found in the visual analysis. The comparison of data from intervention to follow-up phases suggests continued or maintained gains in combined SWB for participants, although not as profound based on baseline and intervention phase comparisons. Based on tentative NAP effect size magnitudes suggested by Parker and Vannest (2009; small or weak effects: 0 – 0.65; medium effects: 0.66 – 0.92; large or strong effects: 0.93 – 1.00), large effects on combined SWB were exhibited between baseline and intervention phases for Participant 6, while medium effects were demonstrated for Participant 1, 3, 5, and 7. From intervention to follow-up phases, medium effects on life satisfaction were evidenced for Participants 2, 3, 6 and 7.

Table 15

Nonparametric Effect Sizes for Combined SWB (NAP & Tau-U)

	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7
Baseline to Intervention							
NAP	0.90	0.56	0.89	0.48	0.67	1.00	0.85
Tau-U	0.79	0.13	0.78	-0.04	0.33	1.00	0.71
Intervention to Follow-Up							
NAP	0.63	0.79	0.79	0.59	0.59	0.69	0.85
Tau-U	0.28	0.58	0.57	0.18	0.18	0.38	0.63

Note. NAP = Nonoverlap of All Pairs

Summary of visual analysis results for combined SWB. Visual analysis and nonparametric effect size results suggest that Participants 1, 3, and 6 exhibited a basic effect. Additionally, visual analysis results and nonparametric effect sizes do suggest the possibility of a basic effect for Participant 5 and 7. Overall results meet the threshold of at least three demonstrations of a basic effect for at least three participants at a minimum of three distinct time points (Kratochwill et al., 2010), which suggests that the strengths-based intervention had a treatment effect on some participants' combined SWB but not for all participants.

Summary of visual analysis results for indicators of SWB. Overall, results suggest individual basic effects were evident for different participants based on participation in the strengths-based intervention for indicators of subjective well-being including life satisfaction, positive affect, and negative affect. However, results for the three indicators of SWB did not meet WWC standards of an overall treatment effect (i.e., at least three demonstrations of a basic effect at three different time points) as indicated by Kratochwill and colleagues (2010). However, when all three indicators were aggregated into a combined SWB variable, overall results exceeded the WWC standards suggesting the strengths-based intervention had a treatment effect on some participants' combined SWB, or overall reported happiness over the course of the intervention.

Visual Permutation Test

For the purpose of controlling Type 1 error rates, a visual permutation test was utilized to replace a more traditional randomization test (Ferron & Jones, 2006). Two experts in single-case design who completed graduate coursework in the specific analysis served as visual analysts in the current study. The analysts were blind to the participants' assignments and specific treatment process. The visual analyst studied masked graphs for each dependent variable (i.e., life

satisfaction, positive affect, negative affect, and combined SWB) and estimated which participant received the intervention at each of three randomly assigned conditions. Both analyst's estimations aligned correctly for both the life satisfaction ($p = .019$) and combined SWB ($p = .019$) variables. This allowed for the null hypothesis to be rejected for both factors suggesting a treatment effect for some participants. The analysts' estimations did not align correctly for either emotional indicator of subjective well-being including positive affect or negative affect. The null hypothesis thus was not rejected for these analyzed dependent variables. This indicated that there was an observable treatment effect for both life satisfaction and combined SWB, but was not observable for positive affect or negative affect.

Multilevel Modeling

Inferential statistics in the form of hierarchical linear modeling (HLM) were also utilized to serve as a more sensitive indicator of average treatment effects across and within the seven participants and to determine if there was evidence of a change over time for each indicator of interest. A two-level model was used to analyze the time series data with individual time points nested within individual participants that estimated the average change in level, the variance in baseline levels, and the variance in treatment levels for each dependent variable. This two-level model was utilized to analyze the data based on the theoretical perspective that each outcome was continuous and that there were no visibly consistent trends amongst all participants within baseline and/or during the intervention phase. Additionally, data were combined within both intervention and follow-up phases to create a combined treatment phase. Differences in phase levels were compared prior to starting the intervention (i.e., baseline) and following the start of intervention (i.e., treatment phase). This allowed for sufficient power in order to evaluate phase changes and represented the consistency maintained from intervention to follow-up phases

reflected across dependent variables evaluated through visual analyses. Furthermore, the design of the intervention encourages continued implementation of character strengths beyond the individualized coaching which should theoretically maintain changes in SWB levels. The following regression model was applied for each indicator of subjective well-being (i.e., life satisfaction, positive affect, negative affect, and SWB combined):

Level One

$$\text{Indicator of SWB } (\gamma_{ij}) = \pi_{0j} + \pi_{1j} (\text{Phase}_{ij}) + e_{ti} \quad (7)$$

Level Two

$$\pi_{0j} = \beta_{00} + \beta_{01} + r_{0ij} \quad (8)$$

$$\pi_{1i} = \beta_{10} + \beta_{11} + r_{1j}$$

Each participant's indicator of SWB represented by interrupted time series data was specified at Level 1 and expected to shift in level (either increase or decrease) during the intervention phase. The parameters to be estimated at Level 1 included π_{0j} , which represents the specific response for each participant during baseline and treatment, and π_{1j} , which indicates the shift between baseline and treatment phases for each participant. Additionally, the Level 1 model accounted for residuals (r_{ij}) given the difference between the observed value and what would have been expected given the specified model. During the treatment phase, β_{1j} served as an overall indicator of the treatment effect for each outcome variable across all participants. A Level 2 model to account for variation between participants was also calculated. Within Level 2, the fixed effects to be estimated included β_{00} , the average baseline level and β_{10} , the average shift in level that occurs with exposure to the strengths-based intervention. Additional residual values were also calculated to account for the differences between the baseline levels for each

participant and average baseline level, as well as the difference between each participant’s treatment effect and overall average treatment effect across participants.

Each hierarchical linear model was conducted assuming a change in level between baseline and intervention phases, as well as autocorrelation (i.e., assumes nonindependent error structure due to the close range in collected time points for each participant). It was assumed that immediate treatment effects would be observed after the start of the first initial intervention session. The data analysis was completed using SAS® software, Version 9.4 (SAS Institute, 2015) with PROC MIXED. The results of each model are discussed by each SWB outcome. The following discussion of results focuses predominantly on the fixed effects estimated. Additional discussion is provided regarding individual variance outcomes for each participant indicating individual treatment effects.

Life satisfaction. The average treatment effect across all participants was found to be $t(4.12) = 3.14, p = 0.0334, 95\% \text{ CI} = [0.07, 1.06]$ which increased in a positive direction and was statistically significant at the .05 level. This indicates confidence in the presence of an effect on participants’ life satisfaction due to participation in the strengths-based intervention. The fixed effects for the dependent variable of life satisfaction are presented in Table 16. There is 95% certainty that the treatment effect is within the confidence interval of 0.07 and 1.06.

Table 16

Fixed Effect Estimates for Life Satisfaction (N = 7)

Fixed Effects	Coefficient	SE	95% CI	
			LL	UL
Average baseline level	4.66***	0.30	3.92	5.39
Average treatment effect	0.32*	0.18	0.07	1.06

Note. CI = confidence interval; LL = lower limit, UL = upper limit.

^aCovariance parameter estimates of the variance components were found to be 0.56 for baseline level, 0.14 for change in level, 0.44 for autocorrelation, and 0.24 for level-1 variance.

* $p < .05$, ** $p < .01$, *** $p < .001$

Empirical Bayes estimates for individual participant effects were also calculated and are provided in Table 17. Outcomes indicate that there was a shift in level for all participants which ranged from 0.02 to 1.37. Both Participant 5 and Participant 6 demonstrated a statistically significant shift in level with Participant 6 demonstrating the most substantial increase (i.e., 1.37). This suggests that while the strengths-based intervention did serve to significantly improve life satisfaction when analyzed across participants as described previously, the intervention had the most considerable impact on Participant 6 in regards to increasing perceived life satisfaction.

Table 17

Empirical Bayes Estimates of Baseline Level and Shift in Level during Treatment for Life Satisfaction

Participants	Baseline Level	Shift in Level	95% CI	
			<i>LL</i>	<i>UL</i>
1	4.55	0.02	-0.58	0.62
2	5.36	0.41	-0.19	1.01
3	4.52	0.28	-0.28	0.84
4	5.21	0.31	-0.26	0.87
5	5.35	0.60*	0.02	1.16
6	3.14	1.37***	0.82	1.92
7	4.85	0.46	-0.09	1.01

Note. CI = confidence interval *LL* = lower limit, *UL* = upper limit.

^aCovariance parameter estimates of the variance components were found to be 0.50 for baseline level, 0.44 for change in level, 0.29 for autocorrelation, and 0.16 for level-1 variance.

* $p < .05$, ** $p < .01$ *** $p < .001$

Positive affect. Due to the significant variability in reported positive affect responses for Participant 5 during baseline (ranged from 2.10-4.90) and intervention phase (ranged from 1.20 to 4.90), a model was constructed to account for a separate variance estimate for that participant. Fit indices were compared from an initial model (i.e., -2 Res Log Likelihood = 298.0) which did not account for variability in Participant 5 to a second model which did account for Participant 5's variability in data (-2 Res Log Likelihood = 257.5). The difference between fit indices was found to be 40.5 and statistically significant ($\chi^2 = 5.99$, $p < .05$) which indicated a better fit

supporting the use of the second model. The average treatment effect across all participants was found to be $t(6.63) = 2.54, p = 0.0402, 95\% \text{ CI} = [0.02, 0.64]$ which was positive and statistically significant at the .05 level, indicating confidence in the presence of an effect on participants' reported experiences of positive emotions due to participation in the strengths-based intervention. The fixed effects for the dependent variable of positive emotions are presented in Table 18. There is 95% certainty that the treatment effect is within the confidence interval of 0.02 and 0.64.

Table 18

Fixed Effect Estimates for Frequency of Positive Emotions (N = 7)

Fixed Effects	Coefficient	SE	95% CI	
			<i>LL</i>	<i>UL</i>
Average baseline level	2.79***	0.23	2.33	3.34
Average treatment effect	0.33*	0.13	0.02	0.64

Note. CI = confidence interval; *LL* = lower limit, *UL* = upper limit.

^aCovariance parameter estimates of the variance components were found to be 0.32 for baseline level, 0.02 for change in level, 0.42 for autocorrelation and 0.23 for level-1 variance for group variance, and 0.10 for autocorrelation and 0.97 for level-1 variance for Participant 5.

* $p < .05$, ** $p < .01$, *** $p < .001$

Empirical Bayes estimates for individual participant effects were also calculated for each participant. Outcomes indicate that there was a shift in level for all participants which ranged from 0.26 to 0.42. However, results indicate that there were no statistically significant shifts for any one participant and all treatment effects were in close range when compared to each other.

Negative affect. As reported previously discussed in the Visual Analysis section, it was evident that a majority of the participants exhibited an outlying observation for the first established data point for negative affect. In order to control for biases in the baseline phase, the first observation was removed for all participants in the multi-level model. The average treatment effect across all participants was found to be $t(6.96) = -0.31, p = 0.03, 95\% \text{ CI} = [-0.57, -0.05]$ which was statistically significant at the .05 level. This indicates confidence in the presence of an

effect due to participation in the strengths-based intervention. The fixed effects for the dependent variable of positive emotions are presented in Table 19. There is 95% certainty that the treatment effect is within the confidence interval of -0.57 and -0.05.

Table 19
Fixed Effect Estimates for Frequency of Negative Emotions (N = 7)

Fixed Effects	Coefficient	SE	95% CI	
			<i>LL</i>	<i>UL</i>
Average baseline level	1.74***	0.14	1.41	2.07
Average treatment effect	-0.31*	0.11	-0.57	-0.05

Note. CI = confidence interval; *LL* = lower limit, *UL* = upper limit.

^aCovariance parameter estimates of the variance components were found to be 0.11 for baseline level, 0.04 for change in level, 0.32 for autocorrelation, and 0.14 for level-1 variance.

* $p < .05$, ** $p < .01$, *** $p < .001$

Empirical Bayes estimates for individual participant effects were also calculated and are provided in Table 20. Outcomes indicate that there was a downward shift in level for all participants which ranged from -0.48 to -0.13, except for Participant 4 who exhibited a slight increase in reported negative emotions (i.e., 0.13). Additionally, Participant 3 and Participant 5 exhibited a statistically significant decrease in level (i.e., -0.48) at the .05 level.

Table 20
Empirical Bayes Estimates of Baseline Level and Shift in Level during Treatment for Negative Emotions

Participant	Baseline Level	Shift in Level	95% CI	
			<i>LL</i>	<i>UL</i>
1	1.50	-0.28	-0.70	0.14
2	1.67	-0.13	-0.55	0.29
3	2.28	-0.48*	-0.87	-0.09
4	1.82	0.13	-0.26	0.52
5	1.72	-0.48*	-0.86	-0.09
6	1.27	-0.13	-0.51	0.26
7	1.52	-0.22	-0.60	0.16

Note. CI = confidence interval *LL* = lower limit, *UL* = upper limit.

^aCovariance parameter estimates of the variance components were found to be 0.12 for baseline level, 0.12 for change in level, 0.30 for autocorrelation, and 0.14 for level-1 variance.

* $p < .05$, ** $p < .01$, *** $p < .001$

Combined SWB. The multi-level model for combined SWB also accounted for variability in Participant 5's data during baseline and intervention phases. Fit indices were compared from an initial model (i.e., -2 Res Log Likelihood = 593.0) which did not account for variability in Participant 5 to a second model which did account for Participant 5's variability in data (-2 Res Log Likelihood = 575.2). The difference between fit indices was found to be 17.8 and statistically significant ($\chi^2 = 5.99, p < .05$) which indicated a better fit supporting the use of the second model. The fixed effects for the dependent variable of combined SWB are presented in Table 21. The average treatment effect across all participants was found to be $t(39) = 5.45, p < .0001, 95\% CI = [1.11, 2.43]$ which was positive and statistically significant at the .05 level. This indicates that there is 95% confidence in the presence of an effect on participants' combined levels of happiness due to participation in the strengths-based intervention that exists between 1.11 and 2.43. The variance associated with Phase (i.e., treatment effect) was 0, so there were no deviations of individual effects from the overall average effect. This indicates that there are no unique individual effects to report.

Table 21

Fixed Effect Estimates for Frequency of Combined SWB

Fixed Effects	Coefficient	SE	95% CI	
			<i>LL</i>	<i>UL</i>
Average baseline level	-1.14*	0.49	-2.27	-0.01
Average treatment effect	1.77***	0.33	1.11	2.43

Note. CI = confidence interval; *LL* = lower limit, *UL* = upper limit.

^aCovariance parameter estimates of the variance components were found to be 1.22 for baseline level, 0.00 for change in level, 0.44 for autocorrelation and 1.80 for level-1 variance for group variance, and 0.26 for autocorrelation and 4.87 for level-1 variance for Participant 5.

* $p < .05$, ** $p < .01$, *** $p < .001$

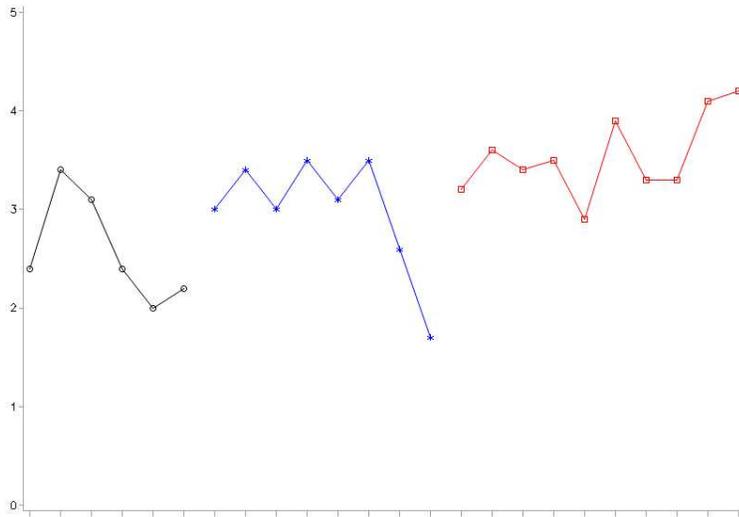
Summary of multilevel modeling results. Overall, results of the multilevel models used to analyze the time series data from baseline to treatment indicate significant intervention effects for all indicators of subjective well-being including life satisfaction, positive affect, negative

affect, and combined SWB. This provides evidence that there was a change in each indicator over time; however, this does not fully support that the change was due to the treatment alone. Individual significant effects were also found for life satisfaction (i.e., Participant 5 and Participant 6) and negative affect (i.e., Participant 3 and Participant 5), but not for positive affect or combined SWB variable for any participant.

Participants' Interpretation of Time Series Graphs

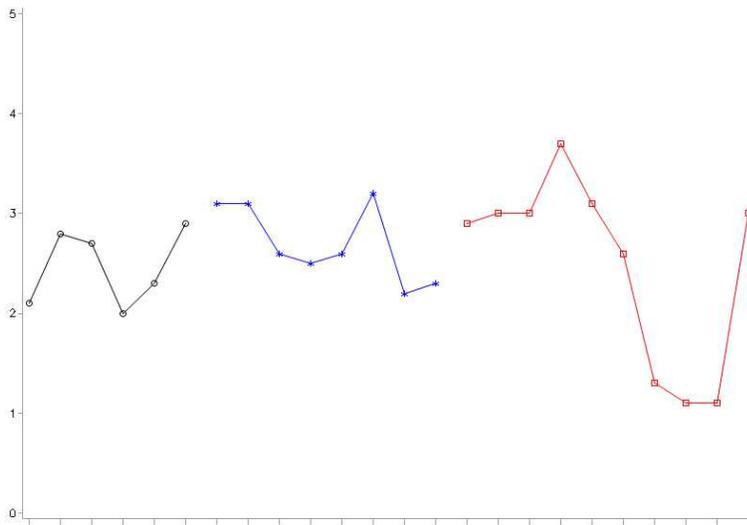
After the completion of the follow-up assessment, each participant was asked to review and interpret their time series data graphs for life satisfaction, positive affect, and negative affect data series through semi-structured interviews. It should be noted that participants reviewed life satisfaction graphs based on scores represented by 5-items rather than the 4-items as participant interviews took place prior to conducting reliability analyses. Additionally, Participant 8's interview is not reported due to the fact that the participant's data were removed from the time series analyses. Several themes emerged from the interviews and are reported within the following section. Participants noted visible improvements when reviewing each graph (i.e., life satisfaction, positive affect, negative affect, and combined SWB) and provided various explanations and clarifications of what may have contributed to significant fluctuations in reported happiness indicators.

Perceived positive improvements. A majority of the participants' interpretation of their data indicated perceived improvements in life satisfaction during intervention and beyond the two-week coaching. Some participants indicated that they recognized improvement over the course of the intervention, while consistency in the data (i.e., as opposed to *declines* in SWB) especially over the course of a stressful time of the year was viewed as a good outcome. Participant graphs and corresponding feedback are provided in Figures 9-15 below.



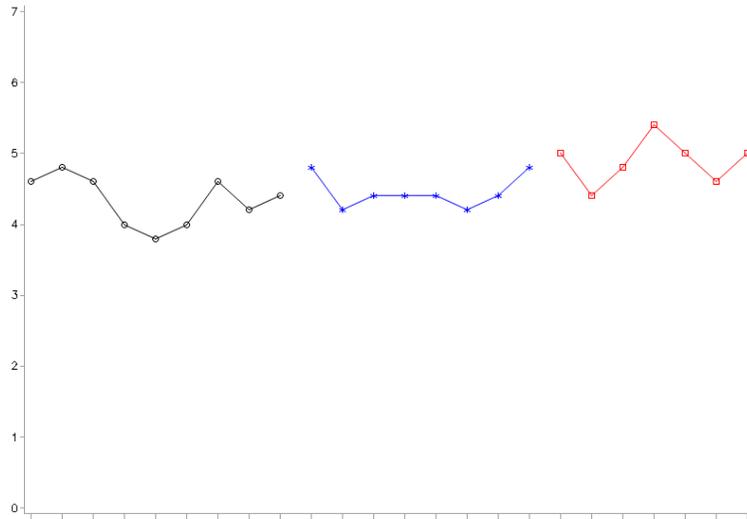
Participant 1: (Positive Affect) “When I was doing the intervention regularly, I was really positive...I was feeling very proud and excited. I was feeling those really positive feelings because I was sharing these things I was doing with them. I am not surprised that when I was doing these things I was more satisfied.”

Figure 9. Corresponding Qualitative Feedback Regarding Perceived Positive Improvements for Participant 1



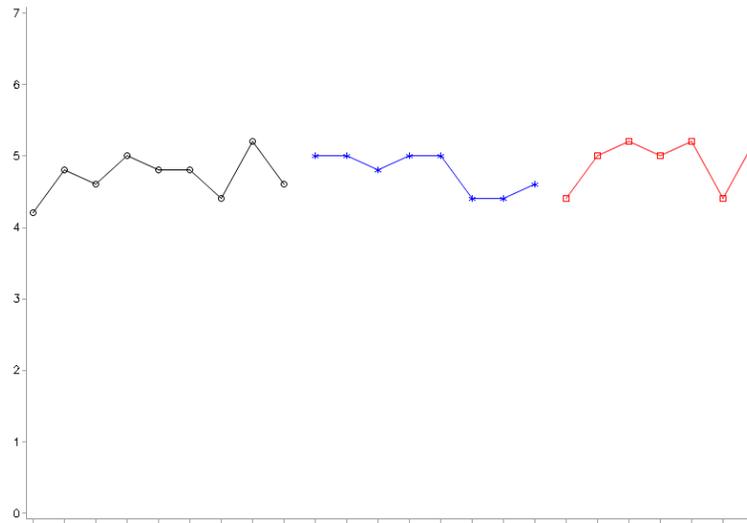
Participant 2: (Positive Affect) “It made me more aware of what I was feeling and what I wasn’t feeling. It made me more appreciative.”

Figure 10. Corresponding Qualitative Feedback Regarding Perceived Positive Improvements for Participant 2



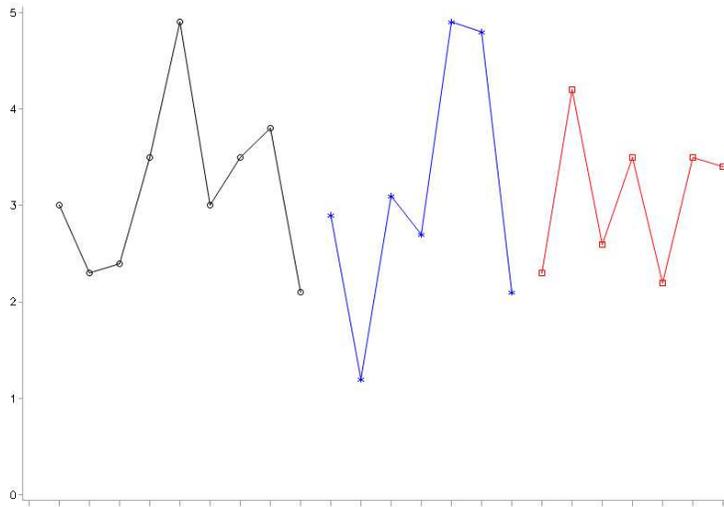
Participant 3: (Life Satisfaction) “I like that I was higher than it was. This makes me feel good that it was pretty high during intervention and after...For me that makes me happy. It was so high.”

Figure 11. Corresponding Qualitative Feedback Regarding Perceived Positive Improvements for Participant 3



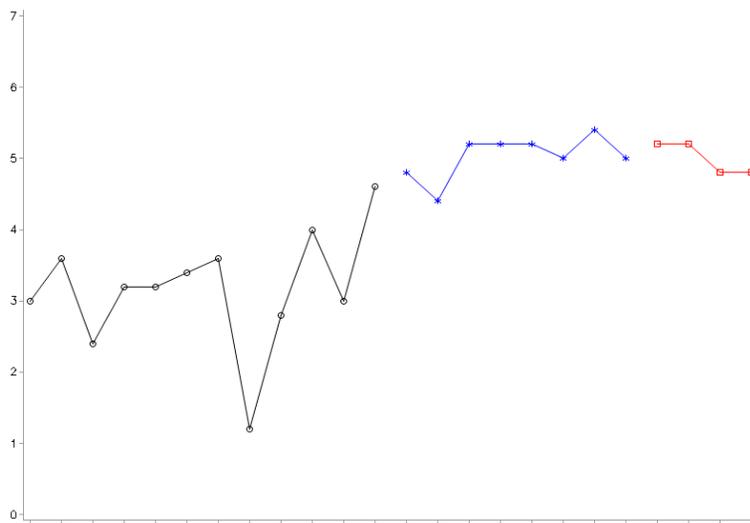
Participant 4: (Life Satisfaction) “It stays pretty consistent.”

Figure 12. Corresponding Qualitative Feedback Regarding Perceived Positive Improvements for Participant 4



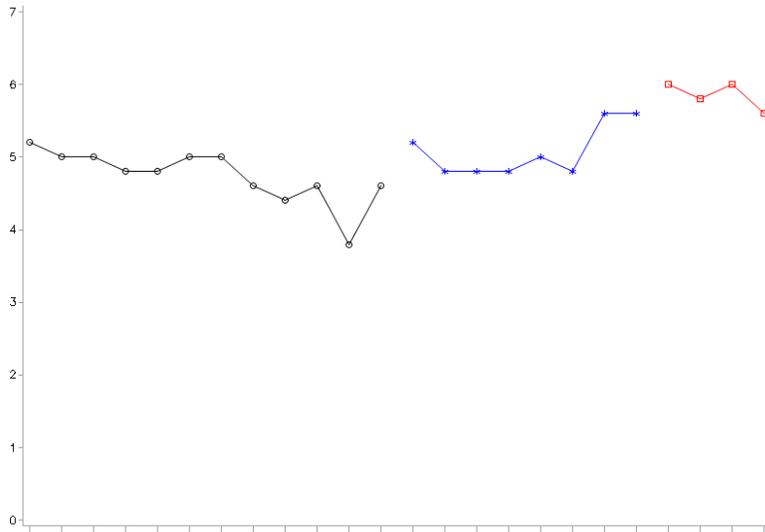
Participant 5: (Positive Affect) “It [the intervention] made you self aware of what was going on during the day and realizing that you can’t control everything...you need to be able to be one of those teachers that can leave your problems at the door.”

Figure 13. Corresponding Qualitative Feedback Regarding Perceived Positive Improvements for Participant 5



Participant 6: (Life Satisfaction) “[referring to during intervention] I was more focused. My day was more focused. The purpose of my day was to try something new or implement something that I hadn’t done before to see if it would make my day better. Where here [points to baseline data points], I mean...I mean does that make sense? These things, oh one kid did this and that [interject primary investigator ‘really impacted you’]...right. So these different things that happened in the day that impacted my answers was more about did I do what I set out to do today and was it successful and how did I feel about it? I think that...or these things did not happen. But, yeah, they probably didn’t seem as catastrophic.”

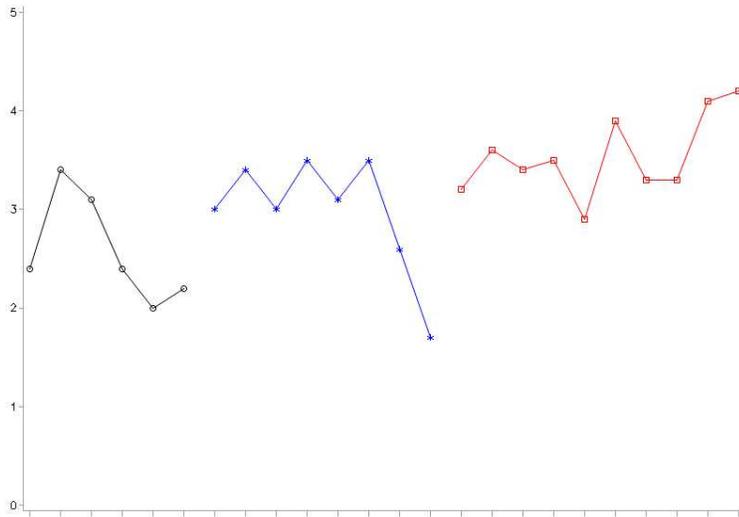
Figure 14. Corresponding Qualitative Feedback Regarding Perceived Positive Improvements for Participant 6



Participant 7: (Life Satisfaction) ““[Referring to intervention phase data points] it seems the points are higher and not as variable.”

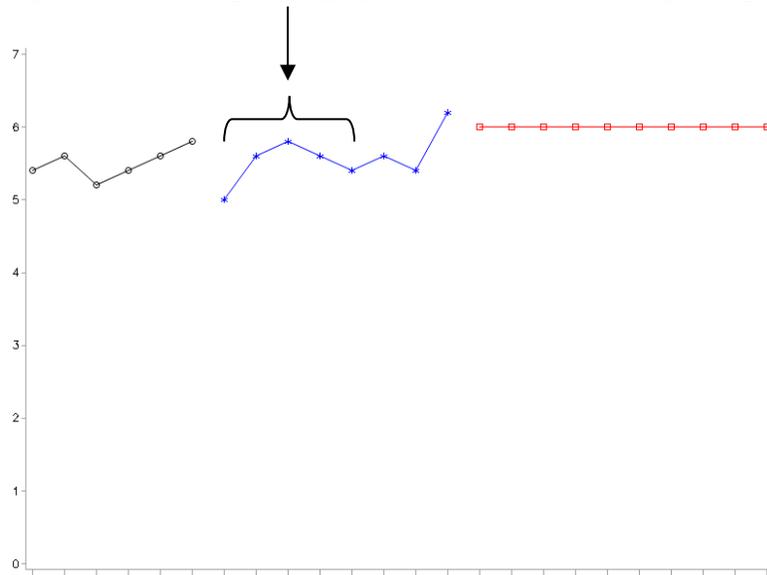
Figure 15. Corresponding Qualitative Feedback Regarding Perceived Positive Improvements for Participant 7

Health issues. Two participants noted during the semi-structured interview that health issues also impacted their overall wellness and responses to measured happiness indicators. Participant 1 indicated that an illness contributed to her responses after spring break, while Participant 2 noted that three time points near the end of data collection were based on a severe illness that left her bedridden. Figures 16 and 17 below provide participant graphs on life satisfaction and positive affect, respectively, and corresponding qualitative feedback.



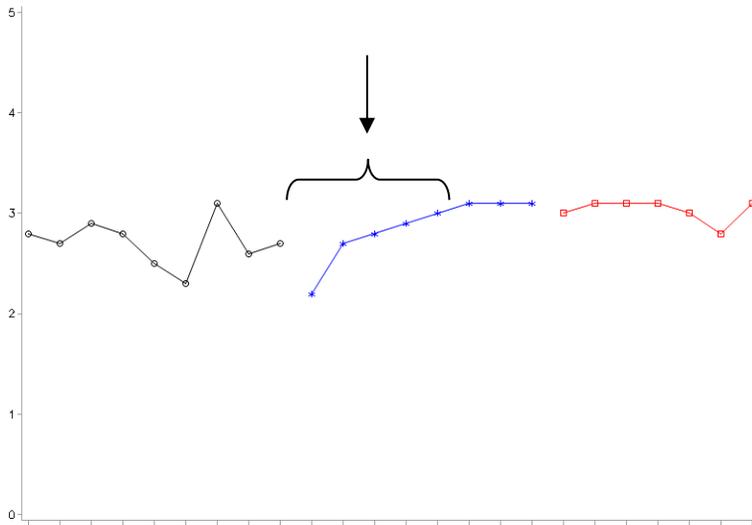
Participant 1: (Positive Affect) “Some of this [referring to lower time points] could be...observation and people coming in and evaluating us...my stress level may have been up there and maybe feeling my kids are maybe not up to par with who is coming in to observe them and I’m getting a little more upset and a little more irritated.”

Figure 18. Corresponding Qualitative Feedback Regarding Teacher Evaluations for Participant 1



Participant 2: (Life Satisfaction) “This was a time of observations.”

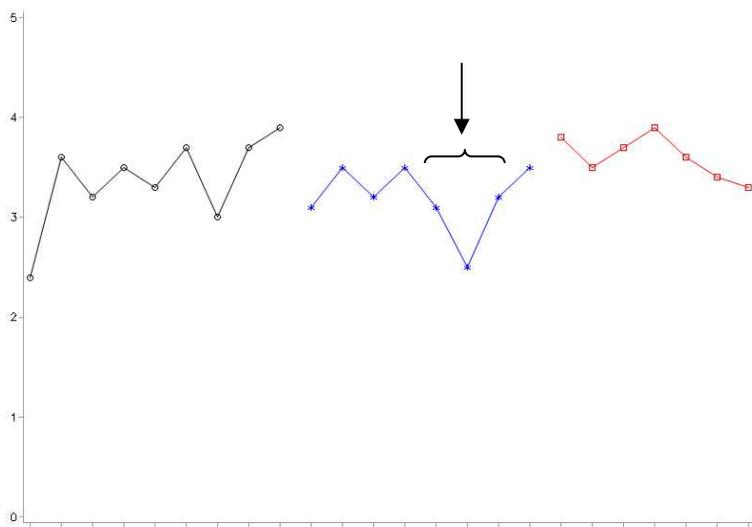
Figure 19. Corresponding Qualitative Feedback Regarding Teacher Evaluations for Participant 2



Participant 3: (Positive Affect) “In this chunk of time alone, I had three informals [i.e., observations from peer mentor] and one observation.”

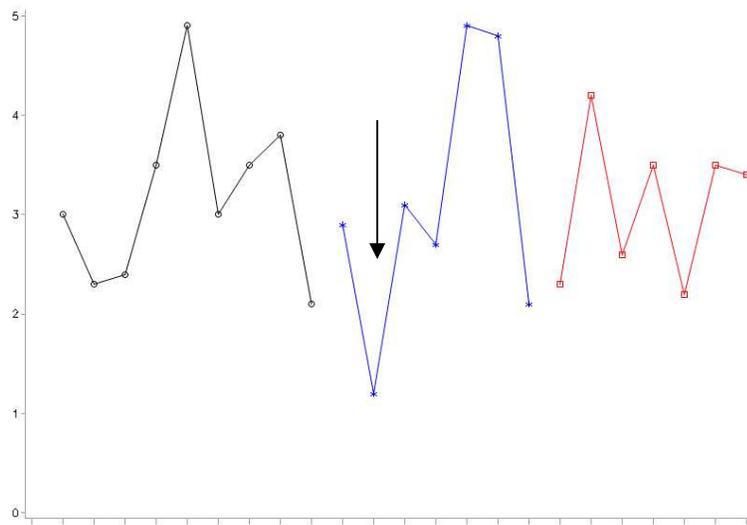
Figure 20. Corresponding Qualitative Feedback Regarding Teacher Evaluations for Participant 3

Classroom disruptions. Two participants also expressed that classroom disruptions including testing preparation and student disciplinary issues also served to increase variability in data collection and contribute to significantly lower positive emotions during the intervention phase. Figures 21 and 22 display participant graphs and corresponding feedback below.



Participant 4 (Positive Affect): “I think we’re getting ready for testing too.”

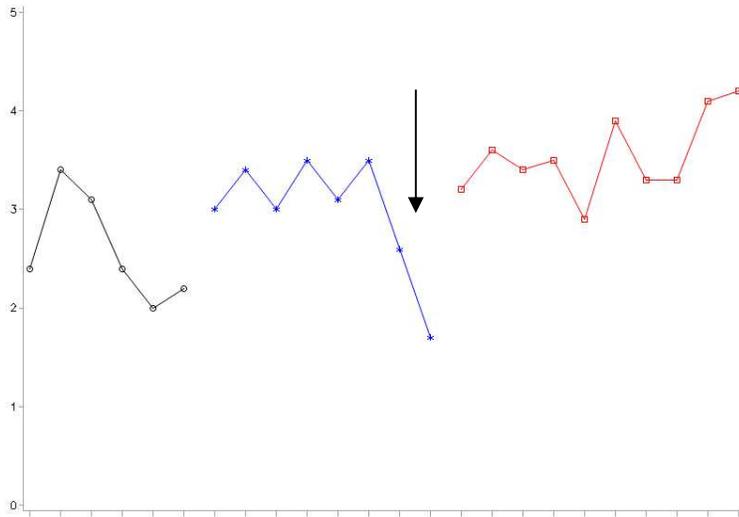
Figure 21. Corresponding Qualitative Feedback Regarding Classroom Disruptions for Participant 4



Participant 5 (Positive Affect): “This was the worst time... March was a mess a total mess so I can see that’s the way it is because that’s the whole month of March and even into the first week of [points to April]. Yeah, that makes complete sense. Things were okay again. That’s definitely what that was.”

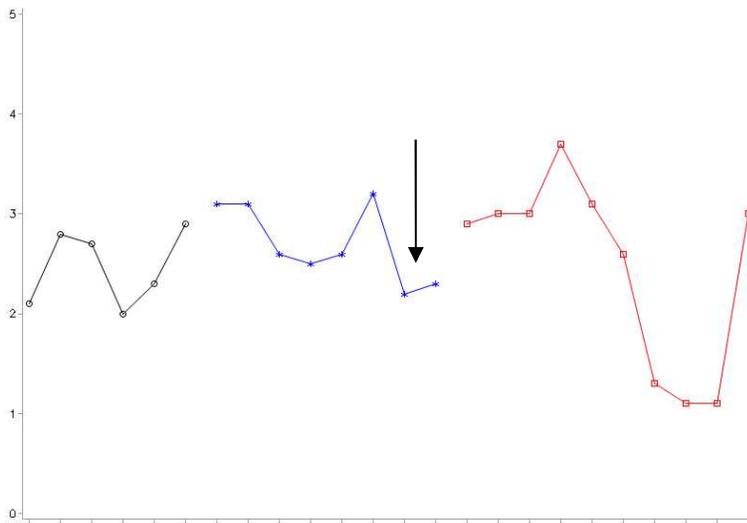
Figure 22. Corresponding Qualitative Feedback Regarding Classroom Disruptions for Participant 5

Return from spring break. A number of participants also noted that having to return to the workplace after the spring break holiday lowered their overall positive emotions which were visibility evident for a number of participants. Participant graphs and corresponding feedback is provided in Figures 23-25 below.



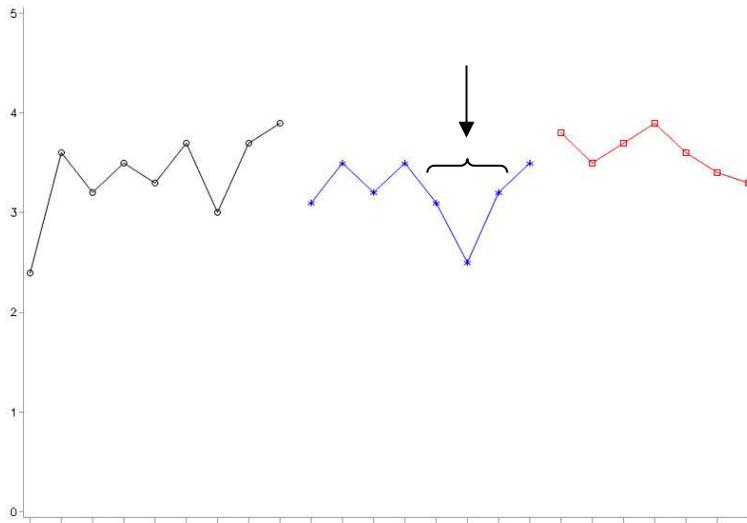
Participant 1: (Positive Affect) “Definitely a dip after spring break but ending on a high note after spring break.”

Figure 23. Corresponding Qualitative Feedback Regarding Return from Spring Break for Participant 1



Participant 2: (Positive Affect) “Pretty much coming back to work from spring break.”

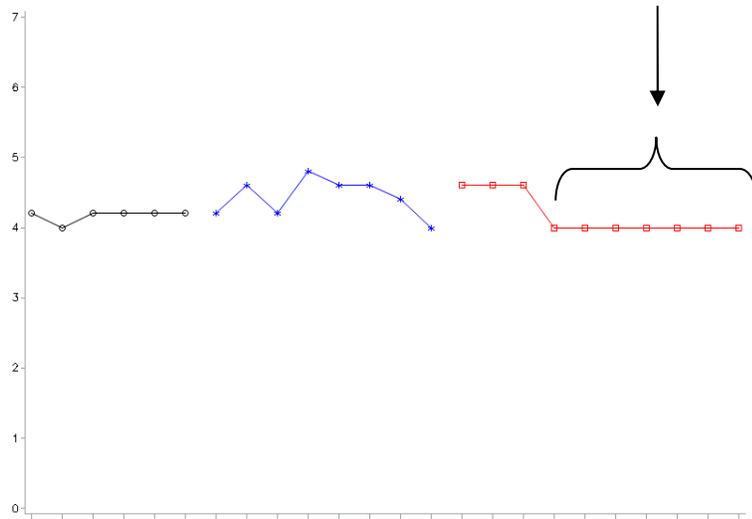
Figure 24. Corresponding Qualitative Feedback Regarding Return from Spring Break for Participant 2



Participant 4 (Positive Affect): “It was low over here [points to return from spring break]...this makes me kind of sad that when I came back. That’s kind of sad though isn’t it?”

Figure 25. Corresponding Qualitative Feedback Regarding Return from Spring Break for Participant 4

Lack of consistent implementation after removal of coaching. Participant 1 also noted that the removal of coaching and accountability provided by the presence of the PI also contributed to diminished indicators of subjective well-being for her following the intervention. She noted that during the intervention, her consistent positive feedback from the implementation of strengths-focused activities increase her feelings of satisfaction in life, but returned to levels at baseline due to lack of consistency. This participant’s graph and corresponding feedback is provided in Figure 26 below.



Participant 1: (Life Satisfaction) “This is when I wasn’t as consistent after the intervention. I would assume a about a month ago... When I was doing the intervention regularly, I was really positive... I was feeling very proud, excited... I was feeling those really positive feelings because I was sharing these thing I was doing with them. I am not surprised that when I was doing these things I was more satisfied.”

Figure 26. Corresponding Qualitative Feedback Regarding Removal of Intervention Coaching for Participant 1

Pre-, Post-, and Follow-Up Data Analyses

In addition to the collection of time series data, the participants also completed measures of well-being at pre-, post-, and one-month follow-up to determine if there were changes in indicators of subjective well-being (i.e., life satisfaction, work satisfaction, positive affect, and negative affect) and additional secondary outcomes (i.e., emotional distress, occupational burnout, and psychological well-being). Participants’ subjective well-being was measured via the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffen, 1985), Positive and Negative Affect Schedule (PANAS; Watson et al., 1988), while secondary work-related factors were measured using an adapted Satisfaction with Life Scale (i.e., SWLS-WD) to directly assess participants’ satisfaction with work, Flourishing Scale (FS; Diener et al., 2009), Perceived Stress Scale (PSS-10; Cohen, Kamarck, & Mermelstein, 1983), and Maslach’s Burnout Inventory-Educator’s Survey (MBI-ES; Maslach et al., 1996). All pre-intervention measures were

administered prior to the start of baseline data collection for all participants, while post-intervention measures were collected immediately following each participant's completion of the last intervention session. Follow-up assessments were collected one-month following each participant's last intervention session with the PI. Prior to conducting analyses, the database was screened for accuracy for all data entered for each participant ($n=8$). During this process, one error was found and corrected. This indicated a 99.94% accuracy rate for all data entered.

Preliminary Analyses

Preliminary analyses consisted of computing Cronbach's alphas for all of the multi-item scales at pre-, post-, and follow-up time points, as well as descriptive statistics including means, standard deviations, and minimum and maximum scores for all variables examined.

Measure reliability. The internal consistency was examined for all scales (i.e., SWLS, positive affect scale of the PANAS, negative affect scale of the PANAS, SWLS-Work Domain, FS, PSS-10, and Emotional Exhaustion, Depersonalization, and Personal Achievement of the MBI-ES) at each measured time point and are presented in Table 22 below. Due to the small sample size, the following alphas should be considered with caution due to the particular sampling error amongst the values. This was most apparent for the SWLS measure, even with values obtained after it was adapted to reflect the 4-item measure utilized in the time series data. Internal consistency results suggest poor reliability for the 4-item SWLS composite at screening, pre-intervention, post-intervention, and follow-up with alphas levels of 0.32, -0.67, 0.73, and 0.15 respectively. Upon further review of the data, it is apparent that individuals were not responding to questions as would be expected based on other responses which suggests that participants may have misread a question or the possibly that they circled the wrong answer. For example, one participant "agreed" or "slightly agreed" with the other three statements, but

“disagreed” that “I am satisfied with my life.” At post- and follow-up time points, the participant responded differently to the same statement suggesting that she “Neither Agreed or Disagreed” with the statement or “Slightly Agreed” with the statement. Additionally, as noted in the Internal Consistency section previously discussed, participants may have responded to each question with a different frame of reference eliminating consistency in responses. It is also possible that the low number of questions or poor inter-relatedness between the items may have also contributed to the overall poor alpha levels. Other scales including the PANAS: NA, FS, MBI-ES exhibited questionable alpha levels at differing time points (i.e., pre-intervention or post-intervention). Outcomes related to these measures should also be reviewed with cautions; however, these measures were not as problematic as compared to SWLS. The remaining coefficient alphas are all within acceptable to excellent ranges.

Table 22

Internal Consistency of Measures at Each Measured Time Point (N = 8)

Measure	Time Point			
	Screening	Pre-Intervention	Post-Intervention	One-Month Follow-Up
SWLS (4 items)	0.32	-0.67	0.73	0.15
PANAS: PA	n/a	0.78	0.91	0.68
PANAS: NA	n/a	0.60	0.72	0.83
SWLS-WD	n/a	0.85	0.97	0.94
FS	n/a	0.50	0.76	0.83
PSS-10	n/a	0.76	0.83	0.94
MBI-ES: EE	n/a	0.77	0.76	0.88
MBI-ES: DP	n/a	0.66	0.16	0.75
MBI-ES: PAccom	n/a	0.88	0.91	0.85

Note. PA = positive affect, NA = negative affect, EE = Emotional Exhaustion, DP = Depersonalization, PAccom = Personal Accomplishment

Descriptive analyses. Descriptive statistics were derived for each measure including means, standard deviations, and minimum and maximum scores at pre-, post-, and follow-up

time points which are depicted visually in Figures 27 – 28, and displayed in Table 23.

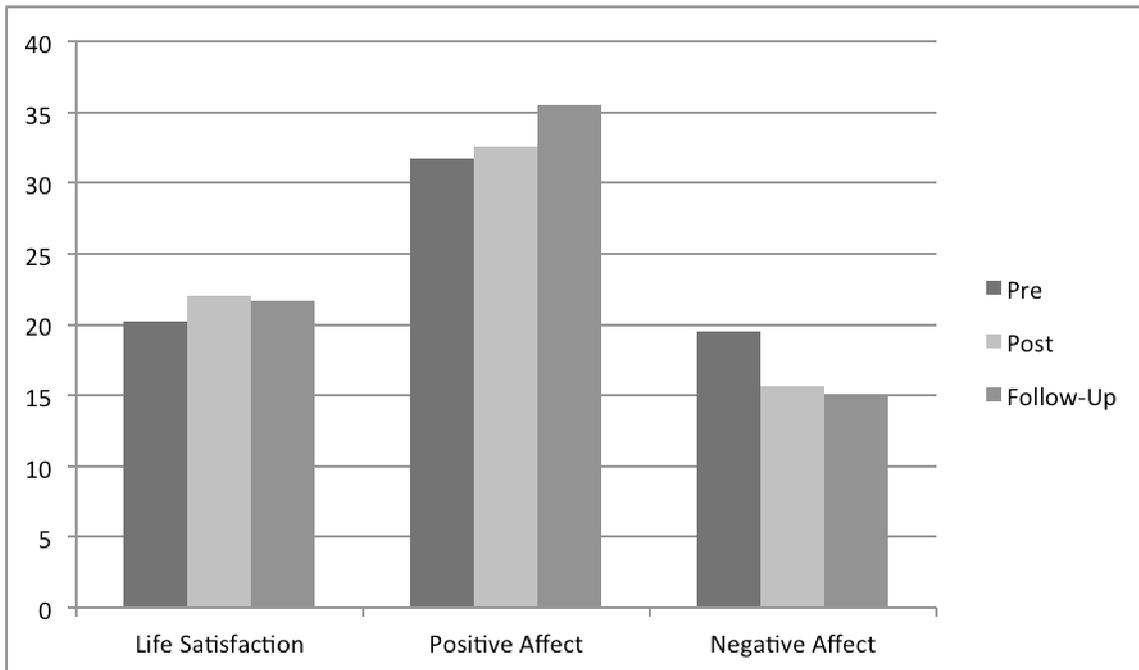


Figure 27. Mean Levels of Subjective Well-Being At Pre-Intervention, Post-Intervention, and Follow-Up Time Points

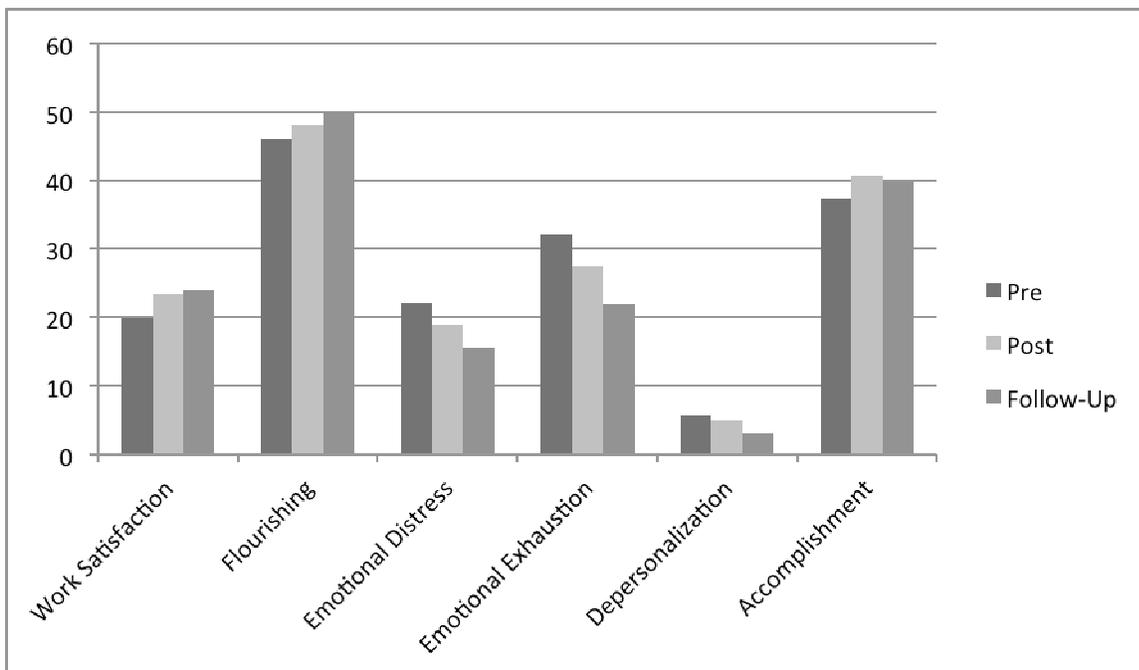


Figure 28. Mean Levels of Secondary Outcomes of Teacher Well-Being and Distress at Pre-Intervention, Post-Intervention, and Follow-Up Time Points.

Table 23

Descriptive Statistics for Pre-, Post-, and Follow-up Assessments ($N = 8$)

	<i>M</i>	<i>SD</i>	<i>Minimum</i>	<i>Maximum</i>
Pre-SWLS*	20.25	1.39	18	22
Post-SWLS*	22.00	2.39	19	25
Follow-Up SWLS*	21.63	1.77	19	24
Pre-PA	31.75	3.89	23	40
Post-PA	32.50	6.91	23	46
Follow-Up PA	35.50	4.24	30	44
Pre-NA	19.50	3.55	16	26
Post-NA	15.63	4.17	10	20
Follow-Up NA	15.13	4.16	10	20
Pre-SWLS-WD	19.88	5.19	12	27
Post-SWLS-WD	23.38	6.70	10	30
Follow-Up SWLS-WD	24.00	6.68	11	29
Pre-FS	46.00	3.55	41	50
Post-FS	48.13	2.70	45	52
Follow-Up FS	49.88	3.00	47	56
Pre-PSS-10	22.00	4.17	16	28
Post-PSS-10	18.88	5.06	9	24
Follow-Up PSS-10	15.50	4.34	7	21
MBI-ES				
Pre-EE	32.13	8.20	22	49
Post-EE	27.50	6.70	16	37
Follow-Up EE	21.88	9.63	6	32
Pre-DP	5.63	3.62	0	10
Post-DP	5.00	2.73	0	9
Follow-Up DP	3.13	3.27	0	9
Pre-Accomplishment	37.25	7.01	25	46
Post-Accomplishment	40.75	5.09	30	46
Follow-Up Accomplishment	39.75	3.99	34	45

Note. Accomplishment = Personal Accomplishment subscale from MBI-ES; DP = Depersonalization from MBI-ES; EE = Emotional Exhaustion; FS = Flourishing Scale (Diener et al., 2009); MBI-ES = Maslach Burnout Inventory-Educator's Survey (Maslach et al., 1996); PANAS = Positive and Negative Affect Scale (Watson, Clear, & Tellegan, 1988); PSS-10 = Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983); SWLS = Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffen, 1985); SWLS-Work = Satisfaction with Life Scale – Work Domain

* = based on adapted 4-item SWLS

The means for PANAS positive affect scores, SWLS-WD, and PWB increased over the course of pre-, post-, and follow-up assessments, and PANAS negative affect, PSS-10, EE, and DP all decreased from pre-assessment to follow-up which were all in the expected direction. The

means for SWLS and Accomplishment increased from pre- to post-assessment; however both scales exhibited slight decreases at follow-up. Individual participants' scores including differences from pre-, post-, and follow-up assessments are displayed in Tables 24 - 32.

Wilcoxon Matched-Pairs Signed-Ranks Test

Wilcoxon Matched-Pairs Signed-Ranks Tests were used to determine if statistically significant changes on indicators of subjective well-being (i.e., life satisfaction, work satisfaction, positive affect, and negative affect) and secondary outcomes related to teacher well-being within the workplace (i.e., stress, occupational burnout, and psychological well-being) were observed across participants over the course of intervention implementation and one-month following the intervention. Nonparametric statistics were utilized based on the small number of participants ($N = 8$) to which the assumption of a normal distribution could not be met.

Participant scores were compared at pre-intervention and post-intervention, as well as compared at post-intervention and one-month follow-up. Difference scores were calculated for each participant by subtracting the pre-intervention score from the post-intervention score, and again for each participant's post-intervention and follow-up scores. Difference scores were then assigned a specific rank (e.g., 1 to 8) based on the absolute value of the difference score with the lowest score obtaining the rank of 1 and the highest score obtaining the rank of n (or highest number in sample). Ranks were then assigned a positive or negative sign that corresponded to each participant's original difference score.

If score differences were tied, midrank scores were calculated (i.e., average of the ranks). This is exemplified for Participant 2 and Participant 3 on the PSS-10 measure. Both participants obtained a 1 point increase in reported stress-level from pre- to post-intervention. Rather than obtain the lowest ranks of 1 and 2 due to the fact that these were the lowest scores obtained, both

participants' rank scores of 1 and 2 were averaged and assigned a 1.5. Additionally, if participants obtained the same score before and after the completion of the intervention, leading to a difference score of zero, the participant's score was not assigned a rank and the participant was removed from the analysis reducing the sample size accordingly. For example, Participant 1 obtained the same total life satisfaction score (i.e., 22) as measured by the SWLS. This participant was removed from the analysis of life satisfaction and the remaining 7 participants were then assigned rank scores from 1 to 7. Ranks were then used to calculate W^+ (i.e., sum of all positive ranks) and W^- (i.e., sum of all negative ranks) and compared to critical W^+_{crit} and W^-_{crit} values. Tables 24 – 32 display pre-, post-, and follow-up assessment scores for each participant, in addition to calculated signed rank scores.

Table 24

Satisfaction with Life Scale (SWLS) Pre, Post, and Follow-Up Assessment Scores

	Pre-	Post-	Follow-Up	$\Delta_{\text{post-pre}}$	Signed Rank (post-pre)	$\Delta_{\text{follow-up - post}}$	Signed Rank (follow-up-post)
1	18	19	20	1	1.5	1	3
2	21	25	24	4	7.5	-1	3
3	22	20	21	-2	-3.5	1	3
4	18	22	21	4	7.5	-1	3
5	21	24	22	3	5.5	-2	6
6	21	23	22	2	3.5	-1	3
7	20	19	19	-1	-1.5	0	*
8	21	24	24	3	5.5	0	*

Table 25

PANAS-Positive Affect (PA) Pre, Post, and Follow-Up Assessment Scores

	Pre-	Post-	Follow-Up	$\Delta_{\text{post-pre}}$	Signed Rank (post-pre)	$\Delta_{\text{follow-up - post}}$	Signed Rank (follow-up-post)
1	32	34	37	2	3	3	4
2	31	23	33	-8	-6	10	8
3	32	33	36	1	1.5	3	4
4	23	33	30	10	7	-3	-4
5	39	46	44	7	5	-2	2
6	40	36	37	-4	-4	1	1
7	26	26	32	0	*	6	7
8	31	30	35	-1	-1.5	5	6

Table 26

PANAS-Negative Affect (NA) Pre, Post, and Follow-Up Assessment Scores

	Pre-	Post-	Follow-Up	$\Delta_{\text{post-pre}}$	Signed Rank (post-pre)	$\Delta_{\text{follow-up - post}}$	Signed Rank (follow-up-post)
1	17	15	13	-2	-1	-2	-2.5
2	23	18	14	-5	-5	-4	-5
3	23	20	20	-3	-2.5	0	*
4	17	10	10	-7	-7.5	0	*
5	18	11	11	-7	-7.5	0	*
6	26	20	22	-6	-6	2	2.5
7	16	19	16	3	2.5	-3	-3.5
8	16	12	15	-4	-4	3	3.5

Table 27

Satisfaction with Life Scale-Work Domain (SWLS-WD) Pre, Post, and Follow-Up Assessment Scores

	Pre-	Post-	Follow-Up	$\Delta_{\text{post-pre}}$	Signed Rank (post-pre)	$\Delta_{\text{follow-up-post}}$	Signed Rank (follow-up-post)
1	21	29	27	8	7	-2	-3
2	12	17	17	5	3.5	0	*
3	26	30	27	4	2	-3	-5
4	17	24	29	7	6	5	7
5	22	25	29	3	1	4	6
6	19	25	23	6	5	-2	-3
7	15	10	11	-5	-3.5	1	1
8	27	27	29	0	*	2	3

Table 28

Perceived Stress Scale (PSS-10) Pre, Post, and Follow-Up Assessment Scores

	Pre-	Post-	Follow-Up	$\Delta_{\text{post-pre}}$	Signed Rank (post-pre)	$\Delta_{\text{follow-up-post}}$	Signed Rank (follow-up-post)
1	23	17	15	-6	-5.5	-2	-5
2	24	20	19	-4	-4	-1	-2
3	18	19	18	1	1.5	-1	-2
4	24	9	7	-15	-8	-2	-5
5	16	14	13	2	-3	-1	-2
6	28	16	14	-12	-7	-2	-5
7	18	24	17	-6	-5.5	-7	-8
8	25	24	21	1	1.5	-3	-7

Table 29

Flourishing Scale (FS) Pre, Post, and Follow-Up Assessment Scores

	Pre-	Post-	Follow-Up	$\Delta_{\text{post-pre}}$	Signed Rank (post-pre)	$\Delta_{\text{follow-up-post}}$	Signed Rank (follow-up-post)
1	48	52	52	4	5	0	*
2	41	48	47	7	7	-1	-2
3	48	45	50	-3	-3.5	5	5.5
4	47	50	56	3	3.5	6	7
5	41	51	48	10	8	3	4
6	44	46	47	2	3	1	2
7	50	45	50	-5	-6	5	5.5
8	49	48	49	1	1	1	2

Table 30

Emotional Exhaustion (EE) Pre, Post, and Follow-Up Assessment Scores

	Pre-	Post-	Follow-Up	$\Delta_{\text{post-pre}}$	Signed Rank (post-pre)	$\Delta_{\text{follow-up-post}}$	Signed Rank (follow-up-post)
1	28	27	19	-1	-1	-8	-6
2	33	37	31	4	3	-6	-5
3	22	27	23	5	4.5	-4	-3
4	30	16	6	-14	-7	-10	-8
5	28	20	11	-8	-6	-9	-7
6	49	33	31	-16	-8	-2	-2
7	38	33	32	-5	-4.5	-1	-1
8	29	27	22	-2	-2	-5	-4

Table 31

Depersonalization (DP) Pre, Post, and Follow-Up Assessment Scores

	Pre-	Post-	Follow-Up	$\Delta_{\text{post-pre}}$	Signed Rank (post-pre)	$\Delta_{\text{follow-up-post}}$	Signed Rank (follow-up-post)
1	7	4	1	-3	-4.5	-3	-4.5
2	5	7	9	2	3	2	3
3	1	4	3	3	4.5	-1	-1.5
4	9	4	1	-5	-6	-3	-4.5
5	10	9	5	-1	-1.5	-4	-6
6	8	7	0	-1	-1.5	-7	-7
7	5	5	6	0	*	1	1.5
8	0	0	0	0	*	0	*

Table 32

Personal Accomplishment (Accomplishment) Pre, Post, and Follow-Up Assessment Scores

	Pre-	Post-	Follow-Up	$\Delta_{\text{post-pre}}$	Signed Rank (post-pre)	$\Delta_{\text{follow-up-post}}$	Signed Rank (follow-up-post)
1	43	44	43	1	1.5	-1	-1.5
2	38	39	40	1	1.5	1	1.5
3	33	38	36	5	6	-2	-4
4	25	42	39	17	8	-3	-6
5	46	43	45	-3	-4.5	2	4
6	36	44	37	8	7	-7	-8
7	33	30	34	-3	-4.5	4	7
8	44	46	44	2	3	-2	-4

Indicators of subjective well-being. It was hypothesized that the variable *life satisfaction* as measured by the SWLS and *positive affect* as measured by the PANAS would obtain positive differences (i.e., W_{obtained} would need to be smaller than the W_{critical} value), while negative affect as measured by the PANAS would obtain a negative difference (i.e., W_{obtained} would need to be smaller than the W_{critical} value). Results of the signed-ranks test for the sample of 8 participants from pre-intervention (Time 1) to post-intervention (Time 2) are displayed in Table 33. Results indicate a statistically significant increase on one indicator of subjective well-being, life satisfaction ($|W_{\text{obtained}}| = 5 < |W_{\text{critical}}| = 6, n = 8, p < .05$), while negative affect exhibited a significant decrease, ($|W_{\text{obtained}}| = 2.5 < |W_{\text{critical}}| = 6, n = 8, p < .05$). There was no statistical differences in pre- and post-assessment scores from the PANAS positive affect ($|W_{\text{obtained}}| = 11.5 > |W_{\text{critical}}| = 4, n = 7, p > .05$) which suggests that participants were experiencing comparable levels of positive emotions prior to and after participating in the strengths-based intervention. Further analysis of the data suggests that some participants ($n = 4$) exhibited increases in positive affect, while other participants exhibited slight decreases or comparable scores prior to starting the intervention ($n = 4$). These results mirror the time series data analyses for positive affect presented previously.

Table 33

Contrast of Indicators of Teacher Subjective Well-Being between T1 and T2

Variable	Time 1		Time 2		$ W_{\text{obtained}} $	$ W_{\text{critical}} $	p
	M	SD	M	SD			
Life Satisfaction	20.25	1.39	22.00	2.39	5.0	6.0	< 0.05
Positive Affect	31.75	3.89	32.50	6.91	11.5	4.0	*
Negative Affect	19.50	3.55	15.63	4.17	2.5	6.0	< 0.05

Note. * = $p > .05$

Results of the signed-ranks tests for participants from post-intervention (Time 2) to one-month follow-up (Time 3) can be found in Table 34. Overall results indicate there was a statistically significant increase in positive affect ($|W_{\text{obtained}}| = 6.0 > |W_{\text{critical}}| = 6.0$, $n = 8$, $\alpha = .05$) at one-month follow-up, which provides confidence in the fact that participants' positive affect changed between the intervention's completion and one-month following the intervention. There were no statistically significant differences in life satisfaction ($|W_{\text{obtained}}| = 6.0 > |W_{\text{critical}}| = 1.0$, $n = 5$, $\alpha = .05$) or negative affect ($|W_{\text{obtained}}| = 6 > |W_{\text{critical}}| = 1.0$, $n = 5$, $\alpha = .05$). The lack of significant differences for life satisfaction and negative affect suggests that changes observed from pre- to post-intervention remained consistent one-month following the completion of the intervention.

Table 34

Contrast of Indicators of Teacher Well-Being from T2 to T3

Variable	Time 2		Time 3		$ W_{\text{obtained}} $	$ W_{\text{critical}} $	p
	M	SD	M	SD			
Life Satisfaction	22.00	2.39	21.63	1.77	6.0	3.0	*
Positive Affect	32.50	6.91	35.50	4.24	6.0	6.0	< 0.05
Negative Affect	15.63	4.17	15.13	4.16	6.0	1.0	*

Note. * = $p > .05$

Secondary indicators of well-being. It was hypothesized that scores for *work satisfaction* as measured by SWL-WD, *psychological well-being* as measured by the FS and *personal accomplishment* as measured by the MBI-ES would obtain positive differences. In contrast, *stress* as measured by the PSS-10 and *emotional exhaustion* and *depersonalization* as measured by the MBI-ES would obtain a negative difference. Results of the signed-ranks test for the sample of 8 participants from pre-intervention (Time 1) to post-intervention (Time 2) is summarized in Table 35 and indicates a statistically significant increase in work satisfaction

($|W_{\text{obtained}}| = 3.5 < |W_{\text{critical}}| = 4$, $n = 7$, $\alpha = .05$) and decrease in stress ($|W_{\text{obtained}}| = 3 < |W_{\text{critical}}| = 6$, $n = 8$, $\alpha = .05$) among participants. There were no statistically significant differences in pre- and post-assessment scores for flourishing ($|W_{\text{obtained}}| = 9.5 > |W_{\text{critical}}| = 6$, $n = 8$, $\alpha = .05$). Additionally, there were no statistically significant differences in pre- and post-assessments for all indicator of burnout including emotional exhaustion ($|W_{\text{obtained}}| = 7.5 > |W_{\text{critical}}| = 6$, $n = 8$, $\alpha = .05$), depersonalization ($|W_{\text{obtained}}| = 7.5 > |W_{\text{critical}}| = 1$, $n = 6$, $\alpha = .05$), or personal accomplishment ($|W_{\text{obtained}}| = 9 > |W_{\text{critical}}| = 6$, $n = 8$, $\alpha = .05$).

Table 35

Contrast of Indicators of Secondary Indicators of Well-Being from T1 to T2

Variable	Time 1		Time 2		W_{obtained}	W_{critical}	p
	M	SD	M	SD			
Work Satisfaction	19.88	5.19	23.38	6.70	3.5	4.0	< 0.05
Flourishing	46.00	3.55	48.13	2.70	9.5	6.0	*
Stress	22.00	4.17	18.88	5.06	3.0	6.0	< 0.05
Burnout							
Emotional exhaustion	32.13	8.20	27.50	6.70	7.5	6.0	*
Depersonalization	5.63	3.62	5.00	2.73	7.5	1.0	*
Personal accomplishment	37.25	7.01	40.75	5.09	9.0	6.0	*

Note. * = $p > .05$

Results of the signed-ranks test from post-intervention (Time 2) to follow-up (Time 3) are displayed in Table 36. Although results suggest no statistically significant differences for two indicators of burnout including personal accomplishment ($|W_{\text{obtained}}| = 12.5 > |W_{\text{critical}}| = 6$, $n = 8$, $\alpha = .05$) or depersonalization ($|W_{\text{obtained}}| = 4.5 > |W_{\text{critical}}| = 4$, $n = 7$, $\alpha = .05$), a statistically significant decrease in emotional exhaustion was found among participants ($W_{\text{obtained}}^+ = 0 < W_{\text{critical}}^+ = 4$, $n = 8$, $\alpha = .05$). Statistical significance was not obtained for work satisfaction ($|W_{\text{obtained}}| = 11 > |W_{\text{critical}}| = 4$, $n = 7$, $\alpha = .05$); however, a statistically significant increase in

flourishing ($|W_{\text{obtained}}| = 2 < |W_{\text{critical}}| = 3$, $n = 7$, $\alpha = .05$ and continued statistically significant decrease in emotional distress was observed ($|W_{\text{obtained}}| = 0 < |W_{\text{critical}}| = 4$, $n = 8$, $\alpha = .05$). Overall follow-up results suggest that participants exhibited significant changes in perceived stress over the course of data collection including post-intervention and one-month follow-up. This is particularly significant given the strengths-based intervention was conducted during this time, in addition to the fact the teachers were also experiencing high demands including teacher formal observations and student high-stakes testing (i.e. Florida Standards Assessment; FSA). Secondary workplace well-being results demonstrated statistically significant increase in flourishing and reduced emotional exhaustion. Although both indicators were moving in the intended direction at post-intervention, significant effects were only observed at the one-month follow-up time point. Although there may have been other factors influencing these delayed effect, participants may have experienced increased indicators of flourishing (e.g., finding purpose and meaning in life, improved social relationships, and increased engagement and optimism) and reduced feelings of fatigue due to continued use of signature strengths beyond the one-on-one intervention sessions.

Table 36

Contrast of Indicators of Secondary Indicators of Well-Being from T2 to T3

Variable	Time 2		Time 3		$ W_{obtained} $	$ W_{critical} $	p
	M	SD	M	SD			
Work Satisfaction	23.38	6.70	24.00	6.68	11.0	4.0	*
Flourishing	48.13	2.70	49.88	3.00	2.0	4.0	< 0.05
Stress	18.88	5.06	15.50	4.34	0.0	6.0	< 0.05
Burnout							
Emotional exhaustion	27.50	6.70	21.88	9.63	0.0	6.0	< 0.05
Depersonalization	5.00	2.73	3.13	3.27	4.5	4.0	*
Personal accomplishment	40.75	5.09	39.75	3.99	12.5	6.0	*

Note. * = $p > .05$

Summary of sum-ranked tests. Pre-, post-, and follow-up assessments measuring indicators of subjective well-being and secondary outcomes of workplace well-being were analyzed using Wilcoxon's Matched-Pairs Signed-Ranks tests. Results from pre- and post-assessments indicate a significant increase in life satisfaction, as well as a decrease in negative affect across participants that maintained at follow-up. Results suggest that there were no significant increases in positive affect at post-intervention; however, significant changes in positive affect were observed at follow-up. In regards to the assessment of secondary indicators of well-being, satisfaction with work was found to be statistically significant immediately following the intervention with gains also maintained at follow-up. From pre- to post-assessment, perceived stress significantly decreased among participants and again significantly decreased one-month following the completion of the intervention. Additionally, results suggest a statistically significant increase in psychological well-being across participants and decrease in emotional exhaustion apparent one-month following the intervention.

Social Validity

A variety of analyses were conducted to evaluate the social importance and acceptability, as well as appropriateness of the strengths-based intervention developed to target multiple elements of teacher well-being. Due to the fact that this was an initial study with an intervention manual used for the first time, data were gathered on the average length of intervention sessions and the span of days between each session in order to determine an ideal interventions schedule. Furthermore, data were collected after the completion of the strengths-based intervention using the adapted form of the Intervention Rating Profile-15 (Witt & Elliot, 1985) to determine if the goals, procedures, and results of the intervention were viewed as socially appropriate and acceptable by the participants. Additionally, participants were asked to write responses to open-ended questions to further gather feedback regarding their acceptability of the intervention including most beneficial elements and suggested changes. All information regarding intervention implementation data and participant responses are provided below and divided into specific themes.

Enacted implementation schedule. The following strengths-based intervention implemented with eight elementary school teachers was intended to be conducted over the course of approximately two weeks in a total of four sessions. The manual was developed to allow for Session 1 and 2 to either be conducted separately or combined (occurring back-to-back, with Session 2 occurring immediately after Session 1) accounting for teacher's availability. Six of the 8 participants opted to combine sessions. Descriptive analysis of the average time length (i.e., mean), standard deviation, and range of each session in minutes is presented in Table 37 below. Two participants in particular tended to serve as outliers in terms of the average length of sessions with Participant 5 representing the minimum length in time and Participant 6

representing the maximum length. The mean scores are more representative of the average length of time for each session based on the conducted sessions with the remaining 6 participants.

Table 37

Descriptive Analyses of Session Recording Lengths in Minutes

	Mean	Standard Deviation	Minimum	Maximum
Session 1	58.13	9.51	40.00	72.00
Session 2	32.63	11.07	20.00	58.00
Session 3	34.00	11.86	26.00	62.00
Session 4	69.00	13.47	40.00	86.00

Additionally, the average length in work days between sessions was calculated. As noted, a majority of participants opted to conduct Session 1 and 2 on the same working day ($n = 6$); however, the average length between Session 1 and 2 for the remaining participants was between 1-2 work days or 24-48 hours. The average length in days between Session 2 and 3 was 5-6 working days, while the average length in days between Session 3 and 4 was 5-7 working days. In future implementation, the average duration of time (in minutes) should be representative of the average length found across participants within this study (i.e., Session 1 = 60 minutes; Session 2 = 30 minutes; Session 3 = 30 minutes; Session 4 = 70 minutes). Additionally, the intervention should preferably be conducted within the span of approximately two weeks with the possible addition of a few working days to ensure flexibility in scheduling for teachers.

Acceptability of strengths-based intervention. Overall results collected from the adapted IRP-15 found in Table 38 suggest that all of the participants found the intervention to be beneficial with positive ratings ranging from 4 (*Slightly Agree*) to 6 (*Strongly Agree*). On a scale ranging from 12 to 72, the average total intervention acceptability score was found to be 66.75 suggesting high satisfaction among all participants. When asked if teachers would find this

intervention suitable for improving teachers’ overall well-being, six of the eight participants stated that they *agreed* (5) or *strongly agreed* (6) with this statement, while two teachers noted that they *slightly agreed* (4) that all teachers would find the intervention to be as favorable. Participants highly rated that they would continue to use the activities learned in the sessions independently and found the intervention to be highly beneficial for teachers.

Table 38

Survey Items of Adapted IRP-15

Questions	Descriptive	
	<i>M*</i>	<i>SD</i>
1. This would be an acceptable intervention for improving teacher’s happiness.	5.50	0.53
2. Most teachers would find this intervention appropriate to use in the school environment.	5.38	0.52
3. This intervention proves effective in positively impacting teacher’s happiness.	5.38	0.52
4. I would suggest this intervention to other teachers.	5.75	0.71
5. Most teachers would find this intervention suitable for improving teachers’ overall well-being.	5.00	0.76
6. I would be willing to use this intervention in the classroom setting.	5.88	0.35
7. This intervention would not result in negative side-effects for the teacher.	5.50	0.76
8. This intervention would be appropriate for a variety of teachers.	5.36	0.74
9. I liked the procedures used in this intervention.	5.50	0.76
10. This intervention was a good way to support the improvement of my overall happiness.	5.50	0.53
11. I will continue to use activities I learned in my sessions on my own	5.63	0.52
12. Overall, this intervention would be beneficial for a teacher.	5.63	0.52
Total Score:	65.75	3.99
Overall Score	5.50	0.31

*Item range (possible) = 1 (*Strongly disagree*) to 6 (*Strongly agree*)

Suggested benefits of intervention. In addition to providing quantitative feedback in regards to treatment acceptability, teachers had the opportunity to provide their perspective of the information by writing responses to open-ended questions included on the adapted IRP-15 measure. All responses to questions can be reviewed in Table 39. In regards to what the participants felt were the most important things they learned in the intervention, participants noted that the intervention helped them to recognize their personal strengths and how such strengths could be integrated into the classroom to improve their personal happiness and improve the climate of the classroom. When asked to describe what they liked best about the intervention, the participants noted that it helped them to direct more of their attention towards their strengths and use them to positively influence their day at school. In addition, teachers noted that continually reflecting with the PI and through daily journaling helped them to become more aware of their growing happiness and positive impact on the classroom and school context. Participants also noted that students seemed to reap benefits from the intervention as well with comments that included: “My students showed more kindness to others and myself” or “I am happy to think some of my students’ successes and how I was able to encourage them because I was happier myself.”

Table 39

Responses to Benefits Gained from the Strengths-Based Intervention

What do you feel are some of the most important things you learned in the intervention?

- “That I have control over my happiness and that I can do specific, concrete interventions to influence my happiness.”
 - “I was reminded of my personal attributes and learned how I can use those natural strengths to improve my own happiness and my students’ engagement.
 - “Just to take a couple of minutes to purposefully plan can change [my] whole day.”
 - “Learning which signature strengths lend themselves to my personal happiness.”
 - “Taking the stress off of both the students and teacher makes the classroom a happier place to be.”
 - “Did not realize what my key strengths were...I will continue to emphasize them as I teach.”
-

What did you like best about the intervention?

- “I like that it helped me to focus on my strengths. For example, I am a naturally playful and grateful person, but I can often lose sight of that. Doing activities that helped me focus on my strengths was refreshing.”
 - “I loved finding out my strengths and using them to influence my happiness.”
 - “The reflecting; it helped me see how much happiness is occurring.”
 - “I enjoyed sharing my trials and activities with [the researcher] and discussing/reflecting on the parts that were successful. Reflecting online was helpful, but it was the one-to-one support that really encouraged me to stretch my limits and explore myself as a teacher. Upon further reflection, I think of the interactions with my students and colleagues that were fueled by this study. I am happy to think of some of my students’ successes and how I was able to encourage them because I was happier myself.”
 - “My students showed more kindness to others and myself.”
-

Suggested changes to the intervention. Participants were also asked to provide their written thoughts in regards to making improvements to the implemented interventions which are displayed in Table 40. A majority of participants noted the potential benefits of incorporating an addition small support group “where participants with similar strengths [could] discuss progress and ideas.” In regards to time, one participant noted that they wished the time (number of work days) given to implement each individual character strength could be lengthened so that they could gain enough additional practice, while another participant expressed the desire for individual sessions with the PI to be condensed. In regards to what participants liked the least about the intervention, a few of the participants left the space blank or wrote “nothing.” Two

participants noted that the every-other-day survey was difficult to remember, but found the reminder email and text to be helpful. Another participant noted that they wished the intervention had been conducted school-wide so she could gain further ideas and support from her colleagues. Additionally, one participant noted that lengthier sessions detracted from the additional responsibilities the teacher needed to attend to within the day.

Table 40

Responses to Suggested Changes of Strengths-Based Intervention

What suggestions do you have to improve the intervention?

- “Maybe a longer period time to practice the interventions. For example, maybe 2 weeks instead of one.”
 - “Participants could meet in small groups to share their progress and support one another. This could work as a "support group" and could possibly be organized by personal attributes of the teachers-if enough participants were available. It could also serve as a check-in system to help each other stay focused on their tasks and plans.”
 - “If the study were to be implemented on a larger scale, group meetings where participants with similar signature strengths, can discuss progress and ideas would be very exciting and beneficial!”
 - “Minimize time needed to meet.”
-

What did you like least about the intervention?

- “Remembering the every other day survey.”
 - “I would have loved for this intervention to have been done school-wide. I did not have anyone, besides [PI] to bounce ideas off of or to reflect on the process. Since the other participants were not officially shared with me, I felt that I wasn't supposed to discuss the activities and my growth with other participants who could relate with my experience.”
 - “Getting started [on intervention implementation] Not my strong point. Thank you for reminder text.”
 - “Meetings took time away from my planning, grading, etc.”
-

Summary of social validity results. Overall results indicate that the intervention was well-received by all eight teachers participants who reported the intervention to be both gratifying and supportive in improving happiness within classroom and school context. Teachers noted that they would be willing to use the intervention again in the classroom setting and reported they would suggest the intervention to other colleagues. Some teachers were in less agreement that all teachers would find the intervention to be as suitable for improving teachers’

overall well-being; however such ratings were still considered to be high (mean of 5.00 based on a 6-point scale). In regards to qualitative feedback, participants reported that they developed a heightened sense of awareness to their own strengths and felt better equipped to use them in the classroom. Additionally, participants reported that the use of strengths tended to increase their personal level of happiness, as well as improve their interactions with both students and colleagues. Teacher participants also provided valuable suggestions for how to improve the intervention including the pairing or implementation of a small support group made up of other teachers participating in the intervention to provide each other various degrees of help in developing strategies for promoting character strengths in the classroom.

Chapter 5

Discussion

The purpose of this study was to contribute to investigate the efficacy of the *Utilizing Signature Strengths in New Ways* PPI as a method to improve indicators of teacher well-being including teacher happiness (i.e., subjective well-being, life satisfaction, positive and negative affect) and secondary outcomes that are primarily related to workplace well-being (i.e., teacher stress and burnout) and flourishing. A multiple baseline single case design was used to measure the impact of the strengths-based intervention on teachers' levels of happiness on an every-other-day basis. In addition, nonparametric analyses were used to determine effects related to indicators of happiness and workplace well-being, while teachers' qualitative feedback was examined regarding the intervention's efficacy. Three research questions were proposed to determine whether teachers' participation in *Utilizing Signature Strengths in New Ways* intervention would result in significant and positive changes. Within this chapter, a discussion is presented focusing on the overall results related to the research questions, and integration of these findings with existing literature. Also, the study's limitations are discussed along with recommendations for future directions for research. Finally, implications of the findings of the current study on the field of school psychology and policy will be presented.

Responses to Research Questions

Research question one. *To what extent does a strengths-based intervention called “Utilizing Signature Strengths in New Ways” exert a positive impact on elementary school teachers' subjective well-being?*

Indicators of subjective well-being (i.e., life satisfaction and positive and negative affect) were gathered using repeated time series data and at three time points across intervention implementation (i.e., pre-, post, and follow-up). Time series data were analyzed utilizing visual analyses, visual permutation, and hierarchical linear modeling (HLM) from baseline throughout intervention and follow-up. Additionally, each specific indicator of SWB was measured at pre-, post-, and one-month follow-up and examined using nonparametric statistics (i.e., Wilcoxon Signed Rank Test) to determine if there were significant changes observed across time. A summary table providing the overall results is presented in Table 41 for each measured dependent variable, as well as further discussed within the following sections. Because of the novel methodological approach used to evaluate the current SWB factors, the current results were compared to outcomes found through randomized-control PPIs conducted with adults, in addition to strengths-based interventions enacted with adults other than teachers.

Table 41

Summary of Results for Indicators of Subjective Well-Being

Dependent Variable	Repeated Measures			Nonparametric Statistics	
	Visual Analysis	Visual Permutation		Hierarchical Linear Modeling	Wilcoxon Signed Rank Test
		MVA #1	MVA #2		
Life Satisfaction		X	X	X	X*
Positive Affect				X	X**
Negative Affect				X	X*
Combined SWB	X	X	X	X	n/a

Note. MVA = Masked Visual Analyst; X = indicates evidence of a treatment effect or statistical significance

n/a = indicates that the specific factor was not analyzed using this statistical method

* = significance change found between pre- and post-intervention comparison

** = significance change found between post-intervention and one-month follow-up comparison

Life satisfaction. In the current study, there was partial evidence of a treatment effect yielded for life satisfaction through participation in the strengths-based intervention as measured by the adapted 4-item SWLS. The results of the visual analysis of the time series data were more questionable given that treatment effects were only visible for some individual participants (i.e., evident treatment effect for Participants 6; possible treatment effect for Participants 2, 3, 5, and 7). Additionally, the visual analysis results did not meet the threshold of at three demonstrations of an evident basic effect for three participants as suggested by Kratochwill and colleagues (2010) to confirm an overall treatment effect. Nonparametric statistical analysis indicated that a statistically significant change in participants' reported life satisfaction was evident at immediate post-intervention with no changes observed at follow-up, suggesting the gains were maintained. The visual permutation test of the two masked visual analysts, however, supports partial evidence of a treatment effect for some participants but not for all. Additionally, HLM results found a statistically significant boost in teachers' reported life satisfaction upon entering the intervention phase which suggests there was evidence of a change over time, although such changes cannot be directly attributed to the treatment alone. The clinical significance of the observed increase in participants' reported life satisfaction is questionable. Participants reported life satisfaction at pre-, post, and follow-up maintained at an *average* level based on Diener and colleagues' (1985) pre-established ranges across time, although individual participants shifted to a *high average* at post-intervention, or immediately following the intervention.

Previous studies have found significant increases in life satisfaction among adults as a result of participation in a PPI with a majority exhibiting increased boosts immediately following the implementation of singular-target PPIs. Such PPIs include gratitude-focused interventions specifically incorporating a count-your-blessings approach (Cohn & Fredrickson, 2010; Emmons

& McCullough, 2003; Fredrickson et al., 2008), gratitude visit (Senf & Liao, 2013), you at your best (Seligman et al., 2005), acts of kindness (Otake et al., 2006), and savoring (Kurtz, 2008). Additionally positive psychotherapy which incorporates multiple PPIs (e.g., counting blessings, gratitude visits, using signature strengths, savoring) have caused an increase in life satisfaction among adults as compared to an intervention group with relatively long-lasting outcomes that were maintained up to a year following the program's implementation (Seligman et al., 2006). Increased life satisfaction was also observed among workers in the *Working for Wellness Program* (Page & Vella-Brodrick, 2013) that targeted personal strengths tied to the workplace. Interventions targeting character strengths directly (i.e., using signature strengths in new and different ways), have overwhelmingly resulted in significantly greater life satisfaction among adults (Mitchell et al., 2010; Mongrain & Anselmo-Matthews, 2012; Seligman et al., 2005; Senf & Liao, 2013). Despite the aforementioned caveats pertinent to methodological limitations of the current study, the support for increased life satisfaction following introduction of the intervention is consistent with the findings from these prior investigations of positive psychology interventions with adults. Nevertheless, PPIs focusing on building resilience within the workplace, such as *Promoting Adult Resilience (PAR)*, have not observed significant increases in life satisfaction attributable to participation in the 11-week intervention (Millea et al., 2008). The researchers noted that the lack of significance may have resulted because the global perspective of a person's life may not have been as noticeably impacted as compared to more definitive work-focused behaviors and skills (e.g., work-related satisfaction, work efficacy) targeted in the intervention.

In total, the hypothesis that elementary teachers would exhibit significantly higher life satisfaction as a result of participation within the strengths-based intervention was supported

across some analytic strategies. Although support was found through visual permutation and HLM analyses, results were less conclusive based on the visual analyses of participants' time series data which suggests more individual effects. Additionally, nonparametric statistical analyses suggests that there was an evident positive change in life satisfaction that occurred immediately following the intervention which continued to maintain one month following the intervention. However, these results must be considered with caution as in the absence of a control group or control phase, such gains cannot be directly attributed to the intervention; something other than the intervention may have occurred during the same period that may explain the change in life satisfaction (e.g., positive feedback from administration regarding teacher observations, observed student growth, outside positive life circumstances). Problems of internal consistency exhibited by the measure of life satisfaction at pre-, post-, and follow-up also reduces confidence in the accuracy of the gathered data. Taken together, the findings from this preliminary study suggest that elementary teachers' participation in a brief, strengths-based intervention focusing on using signature strengths in new and different ways in the classroom and school context may result in statistically significant increases in life satisfaction. More rigorous research is needed to make definitive conclusions that participation in the strengths-based interventions is the most likely cause for the meaningful increases of life satisfaction observed among elementary teachers.

Positive affect. Overall results suggest that the strengths-based intervention may have increased the positive emotions experienced by participants over the course of the study, but support for the optimistic conclusion is mixed. Visual analysis of the time series data suggests individual effects as observed by an evident change for Participant 1 and 6 and more moderate treatment effects for Participants 2, 3 and 7. Results also suggest that the intervention may have

had minimal to negative effects on Participants' 4 and 5. Nonparametric statistics showed that there were some significant increases in participants' reported positive emotions from pre- to post-intervention. However, significant changes were also evident at one-month follow-up. Average levels of teachers' reported positive emotions increased after participation in the intervention as indicated by the HLM analysis, however, such results were not evident across participants through visual analysis and a visual permutation test by two masked visual analysts which suggest that such changes may have not been due to participation in the strengths-based intervention. There are multiple hypotheses that could have resulted in this increased positive shift at post-intervention including the fact that teachers were nearing completion of accountability testing or were nearing the end of the school year with about a month left of direct instruction. However, such results could also reflect Fredrickson's (2001) broaden and build theory which suggests the experience of positive emotions initiates the continued *upward spiraling* of more positive emotions. As teachers continued to experience more positive emotions due to participation in the strengths-based intervention, they became more willing to engage in more pleasant and gratifying moments in the classroom that contributed to their continued increase cycle of positive emotions and increased happiness. Additionally, teachers may have benefited from continued coaching from either the interventionist or fellow colleagues who could have further supported each teacher's continued implementation of signature strengths within the classroom. Such results suggest the need for continued evaluation of participants' reported positive affect beyond the one-month follow-up. The continued application of strengths in the classroom may have further contributed to the teachers experiencing more positive emotions that would have further broaden their thoughts and actions and contributed to positive feelings towards the classroom and school community. It should also be noted that the intervention was

implemented during a particularly stressful time of year that was often acknowledged by teacher participants during intervention sessions or during follow-up interviews. Teachers reported that significant drops in positive affect were often due to teacher observations and evaluations, health issues, or other classroom disruptions including statewide accountability testing.

Prior evaluations of interventions targeting positive psychology constructs have yielded mixed support for effect of intervention on positive affect. Singular-target interventions that focus target you at your best (Layous et al., 2012; Seligman et al., 2005) and hope (Layous et al., 2013; Sheldon & Lyubomirsky, 2006) have found significant increases in positive emotions. However, interventions focusing on character strengths (Mitchell et al., 2009) and savoring (Hurley & Kwon, 2012) in adults have observed no significant differences in participants' reported positive emotions. Interventions targeting gratitude have also exhibited mixed results. While some significant increases have been found for enacting the count your blessings exercise (Emmons & McCullough, 2003), other studies have not found similar increases (Odou & Vella-Brodrick, 2013; Sheldon & Lyubomirsky, 2006). This mirror results for studies enacting best possible selves which have also found similar mixed results (Odou & Vella-Brodrick, 2013; Sheldon & Lyubomirsky, 2006). Some researchers noted that the mixed results in positive affect may be due to differences in follow-up time periods (Odou & Vell-Brodrick, 2013) and the need to continue persisting in the given exercise (Sheldon & Lyubomirsky, 2006), suggesting that longer follow-up time periods may have further increased participants motivation to intact the activity and continually increase participants' experiences of positive emotions.

Negative affect. In the current study, there is partial support that the strengths-based intervention contributed to the decrease of participants' negative emotions over the course of the study as hypothesized by this researcher. Results of the time series data analysis indicate a

decrease in negative emotions once participants took part in the strengths-based intervention. Visual analysis results were less conclusive given the already negative trend exhibited by a majority of participants at baseline which continued throughout the intervention and follow-up phases. Visible floor effects were also a notable limitation of the measured dependent variable as participants were already nearing the lowest score once entering the intervention. Individual basic effects were evident, with visual analysis results suggesting the intervention was most effective in decreasing negative affect levels for Participant 3 and somewhat visible for Participant 1 and 5; however, moderate to small effects were evident for Participant 4 who reported slight increases in negative emotions specifically at follow-up. Nonparametric statistics comparing participants' scores at pre-, post-, and follow-up found statistically significant decreases in reported negative emotions immediately following the enacted intervention. Such shifts were maintained at one-month follow-up. Removal of the first time series data point provided more stability at baseline and was associated with a statistically significant effect in HLM analysis, suggesting a change in participants' negative emotions during treatment; however, such changes cannot be attributed to the treatment given the lack of significance observed by the masked visual analysts. As noted previously, it is possible that such changes may have been a result of other non-measured factors. Taken together, the results suggest the potential benefits of the strengths-intervention reducing elementary teachers' negative emotions; however, more rigorous research is needed to confirm such conclusions.

Prior evaluations of PPIs have also yielded variable effects on negative emotions. Empirical evaluations of singular PPIs suggest that negative emotions significantly decrease through the implementation of gratitude journaling (Odou & Vella-Brodrick, 2013) and savoring (Hurley & Kwon, 2012), while PPIs incorporating the count your blessings technique (Emmons

& McCullough, 2003; Odou & Vella-Brodrick, 2013; Sheldon & Lyubomirsky, 2006) or best possible self (Layous et al., 2013; Odou & Vella-Brodrick, 2013) have yielded mixed results. However, the only strengths-focused intervention that was investigated in relation to impact on the affective component of SWB (Mitchell et al., 2009) did not yield significant differences in negative emotions. Such differences may be attributed to the method of intervention implementation. While Mitchell et al.'s (2009) delivered the intervention via the internet, the current study implemented the strengths-focused intervention in-person through individualized coaching. Additionally, Mitchell et al. (2009) did not encourage its participants to continue implementing their strengths once the participants completed the intervention which was, otherwise, highly encouraged in this study.

Combined SWB. As mirrored in Page and Vella-Brodrick's (2013) study, the three indicators of subjective well-being (SWB: life satisfaction, positive affect, and negative affect) were aggregated to create a combined SWB factor by summing standardized scores of life satisfaction and positive affect, and subtracting negative affect (Linley et al., 2010; Sheldon & Elliot, 1999). This pooled variable was utilized in order to provide more stability in the data and create a more representative depiction of participants' completed happiness (reflected in both the cognitive and affective dimensions of subjective well-being) over the course of the study. Overall results support this author's hypothesis that teachers' participation in the strengths-based intervention would significantly increase overall SWB. This was supported by analysis of the time-series data including visual analysis with at least three demonstrations of an effect (i.e., at least three participants) and moderate to large effects (except for Participant 4, who exhibited minimal to negative effects). Additionally, visual permutation tests of both masked visual analysts supported a significant increase in reported combined SWB for some participants due to

participation in the strengths-based intervention, while HLM results provide further indication of a change over time. Nonparametric statistics were not used to evaluate the data at pre-, post, and follow-up time points due to the questionable internal consistency in reported life satisfaction.

The only other studies to create a combined composite measure of SWB include Linley et al. (2010) and Page and Vella-Brodrick (2013) which both focused on the implementation of character strengths. Linley et al. (2010) explored the use of signature strengths by college students and its contributions to goal progress and attainment, while Page and Vella-Brodrick (2013) embedded character strengths into their employee well-being program (i.e., *Working for Wellness Program*), which helped participants to identify and apply their strengths directly within the workplace. Both studies found that the implementation of character strengths contributed to significantly higher levels of combined SWB at post-intervention and follow-up. Linley and colleagues (2010) found that the use of strengths was associated with goal progress which sequentially improved well-being at both six weeks and ten weeks post-baseline. Likewise, Page and Vella-Brodrick (2013) found that targeting signature strengths in the workplace provided sustained increases in employees' SWB at post-intervention, as well as three- and six-months following the intervention.

Taken together, findings in the current study provide support for an immediate, lasting positive effect of the character strengths intervention on elementary teachers' subjective well-being. Findings of analyses of different aspects of the SWB variable provide the most support for a positive effect of the intervention on life satisfaction, as well as a delayed positive effect on positive affect and a possible immediate (and sustained) effect on negative affect.

Research question two. *To what extent does “Utilizing Signature Strengths in New Ways” exert a positive impact on secondary outcomes relevant to elementary school teachers in the work place?*

Both descriptive and nonparametric statistics were used to analyze scores obtained for measured secondary outcomes (i.e., job satisfaction, psychological well-being, stress, and burnout) relevant to elementary school teachers in the work place. Each outcome was measured prior to starting the intervention and immediately following intervention implementation (i.e., the same day after Session 4 completion). Additionally, these factors were also measured at a one-month following post-intervention data collection. Results suggest immediate significant positive changes on teachers’ reported work satisfaction and perceived stress, with stress levels exhibiting further significant reductions one-month following the intervention. Furthermore, results indicate delayed changes in secondary indicators of well-being including significant increases in psychological well-being and a decrease in emotional exhaustion among participants. The data is presented in Table 42 for each dependent variable and the results are further discussed for each dependent variable below.

Table 42

Summary of Results for Secondary Indicators of Well-Being

Dependent Variable	Pre to Post (T1 to T2)	Post to Follow-Up (T2 to T3)
Work Satisfaction	X	
Flourishing		X
Stress	X	X
Burnout		
Emotional exhaustion		X
Depersonalization		
Personal accomplishment		

Note. X indicates a statistically significant improvement in the outcome

Work satisfaction. Over the course of intervention implementation, participants reported increased overall satisfaction with their work and job-related activities. Most notably, participants reported an increase in satisfaction from pre- to post-intervention as measured through an adapted version of the Satisfaction with Life Scale (Diener et al, 1985) with modified worked focused directly on work-specific satisfaction. These findings provide partial evidence that the strengths-based intervention may have helped support teachers' increased satisfaction towards their work including perceived improvement in work conditions and obtaining important things they wanted out of their job. It was hypothesized that teachers' implementation of signature strengths within the classroom and school context would significantly increase work satisfaction as defined by perceived attitudes towards their occupation and related work practices. Additionally, teachers had the opportunity to pursue and engage in intentional behaviors and activities in the work place that ideally represented their personal traits and characteristics as unique individuals. Qualitative information gathered from teachers when reporting what they liked best about the intervention underscored this notion. One teacher noted that exercising strengths "encouraged me to stretch my limits and explore myself as a teacher." Additionally, teachers were encouraged to focus on implementing activities that were positive and promoted healthy interactions with both students and fellow educators. Previous research (e.g., Gander et al., 2012; Harzer & Ruch, 2012) found a relationship between character strengths and job satisfaction with strengths serving to either buffer the impact of work-related stress on job satisfaction or serving to promote healthy work-related behaviors. Other researchers have also found the benefits of employing positive psychology interventions to improve work-related satisfaction (e.g., Lioussis, Shochet, Milllear, & Biggs, 2009; Milllear, Lioussis, Shochet, Biggs, & Donald, 2008) including Page and Vella-Brodrick (2013) *Working for Wellness Program* that

targeted participant's personal strengths to influence goal setting and promote positive social relationships in the work place.

Flourishing. Participants' feeling of flourishing (i.e., social relationships, self-esteem, purpose, and optimism) increased over the course of the intervention and was found to be statistically significant at one-month follow-up. The construct was measured using the Flourishing Scale (FS; Diener et al., 2009) which measures vital elements of human functioning including positive relationships, feelings of competence, and perceived meaning and purpose in life. These are all aspects of well-being as conceptualized in PERMA theory, Seligman's (2012) revised notion of optimal quality of life, in which the conceptualization of optimal functioning shifted from an exclusive focus on subjective well-being to the presence of indicators from five dimensions: positive emotions (including subjective well-being), engagement, positive relationships, meaning, and accomplishment/achievement.

Although effects were not immediate, the results suggest the strengths-based intervention may have served to increase participants' reported feelings of flourishing one-month following the last intervention session. Given the absence of a control group, it is possible that these delayed effects may have been a result of other outside factors in the school. However, it is also plausible that the strengths-based intervention may have impacted the components that make up the construct including improving social relationships, self-esteem, purpose, and optimism. Over the course of intervention implementation, teachers worked with the interventionist to develop ideas and strategies for how to imbed each signature strength within the classroom and school context. Continued application of such activities (e.g., demonstrating a kind act to a colleague by helping to sort library books; expressing forgiveness to a student) may have improved indicators of human functioning including establishing opportunities for positive social interactions with

both students and colleagues, improving feelings of competence towards classroom factors (e.g., classroom management, student engagement, instructional practices), and providing opportunities to make instructional practices more meaningful within the classroom. The two-week intervention only provided teachers a few opportunities to work towards improve personal functioning within the classroom. However, teachers were highly encouraged to continue applying signature strengths beyond the interventionist's support through a developed action plan. With further opportunities to engage in intentional activities, teachers may have experienced more moments of flourishing in the classroom by engaging in supportive and rewarding relationships, feeling more capable as an educator, and participating in more daily activities of interest. Most notably, the delayed effects present in flourishing mirrored the results found for positive emotions. Positive affect is considered a driving force in the construct flourishing as indicated in Seligman's (2011) PERMA theory. The delayed effects present in both factors seems reasonable given Fredrickson's (2001) broaden and build theory which suggests steady gains over time versus immediate effects.

Stress. Of all the secondary outcomes analyzed related to teacher well-being within the workplace, participants' reported levels of stress exhibited the largest change yielding statistically significant reductions immediately following the intervention and at one-month follow-up. These significant results are even more profound due to the fact that such changes were evident during a highly demanding and anxiety-provoking time of year which included teacher direct observations from peer mentors and administrators, as well as high-stakes testing. Participation in the strengths-based intervention may offer one potential explanation of why teachers' exhibited significant reductions in reported stress levels over time. Previous research suggests a possible relationship between an individual's traits and coping strategies (Connor-

Smith & Flachsbart, 2007; Grant & Langan-Fox, 2006). Most notably, research has shown that some character strengths serve to buffer the impact of work-related stress on job satisfaction (Harzer & Ruch, 2015). Chronic stress for teachers has been shown to result in job dissatisfaction, increased absenteeism, diminished work productivity, as well as increased physical symptoms and physical health problems (Montgomery & Rupp, 2005). Kyriacou (2001) highlighted that teacher stress is the result of the many demands and pressures (e.g., classroom management, time pressures, curriculum changes, evaluations) placed on teachers unique to the classroom context that serve to deplete the joy and pleasure experienced in the workplace. It seems plausible that teachers participating in the strengths-based intervention experienced reductions in emotional distress because they had increased capacity to cope by enacting positive planned activities that served to promote more opportunities for pleasant interactions in the workday. It is also possible that the strengths-based intervention allowed teachers to perceive stressful situations as less overwhelming knowing that they had more resources to accomplish and forge through the task at hand. This is in line with Jennings and Greenberg's (2009) Prosocial Classroom Model that underscores the need to supply teachers with resources and intervention efforts to combat emotional distress and more effectively manage challenges faced in the classroom and school context.

Burnout. Teacher burnout has been purported to consist of three separate subcomponents including emotional exhaustion, depersonalization, and reduced levels of personal accomplishment (Maslach & Goldberg, 1999). Results from the study indicate that one indicator of burnout in particular, emotional exhaustion, demonstrated significantly reduced results for participants one-month following intervention implementation. The other two elements of burnout, including depersonalization and personal accomplishment, evidenced trends

in the desired directions (i.e., depersonalization decreased over time, while personal accomplishment increased over the course of the intervention); however, such changes were not found to be statistically significant. Although it is impossible to know for sure given the lack of a no-treatment comparison condition, participation within the strengths-based intervention may be the cause for the delayed effect on emotional exhaustion seen one month following the completion of the intervention. Such results were also clinically meaningful as the scaled ratings of emotional exhaustion were reduced from a rating of *High* to *Moderate*. As the core of teacher burnout, emotional exhaustion is tied to a number of occupational stressors that result in depleted energy and reduced satisfaction and shares many core components of emotional distress. The significant decrease in the construct is in accord with the reduction in perceived stress exhibited by participants over time. It is also not surprising that depersonalization did not demonstrate significant reductions given that the total scores for participants were already within the *Low* range. This suggests that participants already felt they were already a valuable part of the work community and had established quality interpersonal relationships within the workplace prior to starting the intervention. Additionally, minimal gains in personal accomplishment were not surprising given that teachers initially reported *High* levels prior to starting the intervention. Although an even further increase in personal accomplishment was observed across participants, a ceiling effect was evident.

Prior research evaluating the efficacy of interventions aimed at decreasing burnout among teachers has also observed similar effects with reported significant reductions in emotional exhaustion but no significant changes in either depersonalization or personal accomplishment (Chan, 2011; Unterbrink et al., 2012; Zolnierczyk-Zreda, 2005). Montgomery and colleagues (2015) suggest that both depersonalization and personal accomplishment tend to

be more resistant to change as compared to emotional exhaustion. The researchers also note that most interventions targeting teachers' well-being only keep teachers in mind without accounting for the organizational system of the school. They emphasize that such interventions should not discount the value of students, parents, and administrative staff who are also critical factors in supporting or straining teachers' overall well-being. This warrants further exploration of the impact of PPIs that target multiple stakeholders within schools including teachers and students.

Research question three. *How do elementary teachers perceive “Utilizing Signature Strengths in New Ways” appropriateness, efficacy, and feasibility?*

Overall results show that the entire strengths-based intervention was implemented generally as planned with teachers over the course of approximately two weeks, with the possible addition of extending the intervention length by a few working days to account for teachers' scheduling. On average, the first and fourth session were the longest at approximately 60 minutes, with session 2 and 3 averaging about 30 minutes in length. To gain insight on perceived acceptability of the intervention, all eight participants completed the adapted IRP-15 measure and corresponding open-ended questions which provided participants the opportunity to share their perspective regarding what they found most beneficial and liked best about the intervention, in addition to what participants felt may need to be improved for future implementation purposes. Based on a scale ranging from 12 to 72, the average total intervention acceptability score was found to be 66.75 which suggests all participants found the intervention to be highly acceptable. It should be noted that the teachers recruited for this study were from a convenience sample that volunteered to participate and were already amenable to change. Future studies should look towards randomly assigning teachers from a larger, more representative sample to an intervention and control group to specifically evaluate the impact of participant

motivation to outcomes of well-being. Seven of the eight total participants rated the *Strongly Agree* that that they would suggest this intervention to other teachers and would be willing to use this intervention within the classroom. Additionally, all participants reported that they would continue to use the activities learned in the sessions in the future and found the intervention to be beneficial.

In regards to suggested benefits from the intervention, many of the participants highlighted the advantages of understanding and recognizing signature strengths and how that seemingly improved their happiness within the classroom and those around them (i.e., students, colleagues, classroom climate). Teachers emphasized the benefits of continually reflecting throughout the week through daily journaling and completion of the every-other-day SWB measures, as well as working with the interventionist to discuss the success and barriers of intervention implementation. This suggests that these strategies and tools helped the teachers to develop more self-awareness, specifically their growing attention towards their increased happiness. The teachers also provided the author valuable insight into how the intervention can be improved for future implementation. Many teachers suggested that embedding a small teacher support group or teacher pairing would be helpful to not only increase teachers' fidelity of the intervention but also provide another support system to generate ideas and address any barriers to implementation throughout the week. This is in line with Luthar's (2006) work on promoting resilience (e.g., positive adaptation despite exposure to risk and intense stressors) for both adults and youth. She emphasizes the importance of perceived social support (i.e., the presence of other persons to provide encouragement when faced with emotional stressors) as a positive means to combat stress in various contexts. This is also exemplified in Jiménez Ambriz, Izal, and Montorio's (2012) research that found that psychological resources such as seeking emotional

support and having valuable social relationships can diminish the negative effects of stress on life satisfaction throughout adulthood (ages 18 to 90 years).

Overall, results indicate that the elementary teachers who participated in this study found the strengths-based intervention to be appropriate, efficacious, and feasible to implement within the classroom context. Treatment acceptability, or also regarded as social validity, can be defined as “judgments of treatment procedures by professionals, laypersons, clients, or other potential consumers” (Kazdin, 1980; p. 259). Wolf (1978) emphasized the importance of social validity when reviewing the impact of an intervention outlining three specific elements that contribute to acceptability including: (a) its goals (what does it do to change the behavior?), (b) its procedures (Is this a complex or simplistic intervention design?), and (c) its effects (unplanned collateral effects). This emphasizes that a treatment must aim to teach a skill or behavior that has a tremendous amount of value to the community at large; in this case the school environment. Research underscores the importance of measuring treatment acceptability given the fact that high acceptability is often associated with increased implementation, adherence, and reduced attrition (Kazdin, 1980, 2000).

Research in the positive psychology field also underscores the importance of treatment acceptability and continued implementation of learned strategies. Lyubomirsky and Layous (2013) emphasize that sustainable outcomes in SWB vary across individuals based on different moderators including specific features of the activity or person such as preference, motivation, dosage, variety, and pleasure gained from the intentional positive act. This suggests that some activities with positive intentional outcomes are better suited for specific types of people, or what is better known as *optimal person-activity fit*. High levels of treatment acceptability may have been reported by participants in this study due to the fact that teachers were given the

opportunity to develop and select their own methods for implementing their signature strengths in new and different ways based on what they felt was most feasible, sustainable, and gratifying in the classroom. It was important to this researcher to encourage sustained high acceptability among teachers participating in the intervention given the theoretical context of *hedonic adaptation*, also known as *hedonic treadmill* (Brickman, Coates, & Janoff-Bulman, 1978). This theory suggests that humans tend to return to their baseline level of happiness, or hedonic set point, even after participating in highly positive or negative events. In order to prolong the positive effects observed among participants and avoid returning to baseline happiness levels, it was vital for participants to see the value in continuing to implement positive activities tied to signature strengths, and continue making such behavior changes accordingly.

Limitations

The following study had noted limitations that should be considered.

Sample. A potential limitation relates to concerns regarding population validity given the study was conducted with a small sample size. The small nature of the sample may have also contributed to some treatment effects not being accurately detected. All eight participants completed the study from baseline to the follow-up phase of data collection; however, the removal of one participants' time series data was warranted given the unreliability in data collection procedures. This presented a potential risk in weakening the power to detect accurate treatment effects. The generalizability of the sample is also limited to a specific population (i.e., elementary teachers) who were based on a convenience sample (i.e., volunteered to participate) rather than a more stringent randomized sample, although the homogenous nature of the sample increases generalizability to other populations with similar characteristics. Because the study entailed evaluating an intervention, it was necessary to partner with a school with teachers who

were motivated to take part in the well-being initiative. Additionally, the current methodological approaches, especially nonparametric statistical analyses, used in this study with a smaller sample are less advantageous and cannot provide definitive conclusions as compared to more rigorous methods using larger samples. Future studies should explore the efficacy of the intervention using more rigorous methods including randomized-control trials which could compare the effectiveness of the intervention to a control group.

Data source and focus. Another limitation that should be considered is the implementation of self-report data alone to evaluate the effects of the intervention data. Repeated measures were based solely on self-report measures without the use of behavioral observations most utilized within a multiple baseline, single-case design. Additionally, pre-, post-, and follow-up data were gathered through self-report alone using measures often associated with well-being. Although other behavioral methods of subjective well-being exist, individual reporting is generally considered the gold standard due to the internal nature of the construct. Through multiple interactions on a continuous basis, the researcher may have inadvertently had a positive impact on the participants and their responses, rather than the intervention alone. The interventionist developed relationships with each of the participants over the course of the intervention which may have influenced the participants to provide more advantageous responses. Thus, participants may have been inclined to provide more socially desirable responses or in a manner that they felt the researcher desired. However, it is notable that during session check-ins and when reviewing graphs following the intervention, all participants provided reasonable explanations and authentic instances when discussing outlying data points (i.e., extreme highs or lows compared to other data points) which suggests participants were providing honest responses when completing measures. In order to capture a more well-rounded depiction of a teacher's happiness and well-

being, future research could include other possible informants (e.g., fellow colleagues, students, family members) although such sources are not often accessed in similar studies.

Furthermore, data related to student social-emotional well-being and academic achievement and factors of classroom climate were not gathered in this study. Although many teachers spontaneously reported (during conversations with this interventionist during sessions, and within qualitative feedback on the adapted IRP-15) that positive influences on students, colleagues, and the classroom environment at large were present, such conclusions cannot be drawn given the fact that such outcomes were not directly evaluated. In future research of the strengths-based intervention with teachers, the research team should consider incorporating evaluating outcomes related to both students and classroom climate.

Collection of time series data. Another limitation in self-reporting that was unanticipated by this researcher was the variability of participant responses within their reports of the affective components of SWB (i.e., positive affect). Within the study, the time series data was intended to capture participants' responses reflective of their experiences within the given day. Although this provided a broad snapshot of the participants' feelings and emotions, it also potentially confounded the data with other external life events. Additionally, teachers were provided a large length of time to complete the every-other-day measures (from 3:00 to 11:00PM) which could have further confounded the data by diminishing the accuracy of participants' responses towards their well-being within the given workday. This may warrant the need to collect time series data using specific measures that more definitively capture well-being within the workplace. In addition, it may also merit the use of data collection that is more momentary and random in nature to capture a more accurate depiction of teacher's perceived well-being during the workday. Regardless, the use of repeated measures tended to capture the

unpredictable nature of the classroom environment and potential to experience variable emotions throughout the day.

Intervention implementation schedule. Within this study, the intervention implementation period happened to co-occur with teacher formal observations and student standardized testing. Many of the teachers continually noted this limitation with this researcher during intervention sessions, often verbalizing feeling high levels of stress and anxiety regarding the specific timing of the school year. Given the quality outcomes that were exhibited by a number of participants, it is possible that even larger treatment effects would have manifested if the intervention had been implemented during a different (less stressful) time of the year. Additionally, the timing of the intervention also limited the ability to establish stable baselines prior to intervention which is desirable in multiple baseline designs. It was important for this researcher to maintain external validity within the school setting which came with a variety of limitations including limited teacher time availability and warranted the need for pre-established baseline lengths. Unfortunately, this proved problematic when using visual analysis to draw overall conclusions as data exhibited instability at baseline.

Practice effects. Participants were asked to complete the same self-report measures on a repeated basis, which may have caused practice effects (Shaughnessy, Zechmeister, & Zechmeister, 2006). Participants may have responded the same way or tended to quickly respond to statements without providing much thought especially given the fact that there were only two measures presented in the same order on an every-other-day basis. For future implementation, the measures or individual statements may be presented in a randomized order to minimize practice and carry-over effects. This may have also contributed to the problems observed in reliability for the Satisfaction with Life Scale (Diener, 1985). Although the internal consistency

of the measure improved with the removal of the fifth item within the time series data, the reliability of the measure remained problematic at the pre, post, and follow-up time points. For future studies evaluating the efficacy of the intervention, it may be reasonable to incorporate additional valid and reliable measures of adult happiness that have been utilized to evaluate the effectiveness of other PPIs including the Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999) and Steen Happiness Index (SHI; Seligman et al., 2005). Additionally, it would also be valuable to implement measures that capture the construct of well-being with teachers in mind. The recent development of the Teacher Subjective Wellbeing Questionnaire (Renshaw, Long, & Cook, 2015) that aligns with the positive psychology framework may be a valuable tool to evaluate the strengths-based intervention's efficacy in the future.

Variability in strength application. An additional limitation faced within the study was the unexpected difficulty in implementation of character strengths that were more abstract than others (e.g., authenticity, social intelligence) or may have been perceived as more difficult to implement within the classroom and school context (e.g., spirituality). During intervention sessions, teachers noted difficulty in implementing character strengths that may have been viewed as abstract or may have been better implemented through long-term goal setting with smaller short-term goals leading up to an accomplished goal by the end of the year. Some of the teachers also expressed different interpretations and application of a given character strength that slightly diverged from the original definition. For instance, this researcher defined curiosity as “having openness and interest to a novel experience” while Participant 4 viewed this definition and corresponding activities as more reflective of *open-mindedness*. During these situations, this author often let the teacher build strategies based on the teacher's interpretation to ensure increased desirability and fidelity with the developed plan. Such feedback regarding abstract

strengths warrants further refinement and modification within future editions of the strengths-based intervention manual.

Implications for School Psychologists and Educational Research & Policy

Relevance of teacher well-being. The accountability movement in the recent decade has served to dramatically increase concerns regarding teachers' well-being especially as attrition rates continually rise (i.e., 17.3% of beginning public school teachers leaving the profession within the first five years; Gray & Taie, 2015). Education reform has focused predominantly on improving student achievement often evaluated through high-stakes testing and tied to teachers' evaluations to ensure educators are held more responsible to student outcomes (Fleming et al., 2013). Additionally, teachers are asked to take on more classroom responsibilities including managing more severe student behaviors and promoting student social and emotional competence. These exceeding pressures placed on teachers most likely contribute to the growing teacher attrition and migration rates, as well as the chronic stress and burnout that teachers must endure on a daily basis (Montgomery & Rupp, 2005). It must be recognized by both school psychologists serving teachers in schools and, more broadly, policy makers that enact educational mandates, that teachers are in need of the same social-emotional supports and strategies that are encouraged to develop students' happiness and thriving within the school environment. Research shows that teachers are an integral part of the classroom and school community often explaining approximately 10 – 20% of the variance of student outcomes with some teacher behaviors and actions explaining up to 75% (Muijs & Reynolds, 2002; Muijs, 2006). Jennings and Greenberg's (2009) review of literature found that teachers' social and emotional competence and well-being serve to generate more efficacious and confident teachers, as well as positively influence students' perceived classroom support and academic and social-

emotional competence. These researchers further note that without social-emotional competence, teachers are more apt to experience emotional distress and burnout which cascades into further harmful effects that can impact student success (e.g., classroom climate, teacher-student relationships, classroom management).

Positive psychology and teacher well-being. In order to promote teacher well-being, factors that encourage teachers' ability to flourish and thrive in the classroom must also be addressed rather than targeting mental health concerns alone including stress and burnout (e.g., Fleming et al., 2013; Jennings & Greenberg, 2009; Miller et al., 2008). Positive psychology interventions (PPIs), specifically the strengths-based intervention evaluated in this study, offer a potential means to encourage this effort. Although the intervention is in its initial stages of evaluation needing further investigation and refinement, the evidenced changes on indicators of subjective well-being (life satisfaction, positive affect, and negative affect), flourishing, and stress in the workplace provides preliminary support that the effects associated with the intervention are promising.

Improving teacher well-being. Although teacher well-being is of grave concern, minimal intervention research is available in the field to provide definitive solutions that address teachers' mental health (e.g., emotional fatigue, stress and burnout) and personal thriving (e.g., job and life satisfaction, positive emotions). Findings from the current study provide preliminary evidence that the brief, strengths-based intervention enacted in this study may serve to address teachers' social and emotional needs. Results of the study suggest that the strengths-based intervention improved combined SWB with additional partial evidence in positive improvements of increased life satisfaction and positive affect, as well as reduced negative affect among individual participants. Additionally, there is some evidence the intervention is associated with

improvements in mental health among participants (i.e., reduced stress and emotional exhaustion), in addition to improving flourishing and work satisfaction. As experts in mental health and well-being, school psychologists are being asked to support teacher's social and emotional needs through evidence-based strategies, in addition to students. Additionally, school psychologists have the systems level perspective to recognize that addressing teachers' needs can have potential far-reaching implications on improving classroom and school climate factors (i.e., improved teacher-student relationship, student perceived support) to ensure student success. School psychologists may consider using the strengths-based, teacher-focused intervention to support teacher well-being through individual consultation and job-embedded coaching. During implementation of this or any intervention, school psychologists should continually monitor teachers' progress on indicators of well-being either by means of single case design methods or through pre-, post-, and follow-up analysis. In its current form, it is proposed that this intervention should be used on an individualized basis (i.e., Tier 3 or tertiary-level support), but can be adapted to be utilized with a larger amount of teachers within a Multi-Tiered Systems of Support (MTSS) intended as either a preventative strategy or focused intervention to address concerns in teachers' well-being. All teachers may benefit from exposure to the constructs of positive psychology, and guidance on how to identify their specific signature strengths to apply in the classroom context. Additionally, teachers could also benefit from working in groups that focus on developing ideas for embedding strengths in the classroom.

Person-intervention fit. Results of the multiple baseline, single-case design also provide initial indication that the strengths-based intervention contributes to the improvement of indicators of SWB (life satisfaction, positive affect, negative affect) for some participants but not for all. There was some variability in basic effects observed among participants with some

effects more present than others on different contributors of SWB. Also, two participants in particular (Participant 4 and 5) exhibited minimal to negative gains in SWB factors which suggests that the strengths-based intervention may not be as effective in improving happiness levels among *all* elementary teachers. This warrants caution when attempting to enact this and any intervention with elementary teachers in schools, and no intervention works for everyone. Mental health professionals, including school psychologists, should be highly vigilant when enacting interventions targeting the social-emotional needs of teachers, including the strengths-based intervention explored in this study, through continued data collection and progress monitoring to ensure the intervention is working as intended.

Defining teacher well-being. The results of this study have implications on the future research of teacher well-being and policies enacted within today's educational system. Decades of research have predominantly examined teacher's well-being through a negative perspective concentrating heavily on mental health concerns (i.e., stress and burnout) that contribute to teacher and student outcomes, rather than addressing factors that support teachers' ability to flourish in the classroom. Although the research is quite extensive, these studies offer minimal solutions in how to combat such detrimental effects and provide teachers the tools and strategies to support their happiness and satisfaction in the workplace. This study, along with more recent research, underscores the importance of conceptualizing teacher well-being using a more comprehensive definition that mirrors the notion of complete mental health within the positive psychology field (i.e., absence of psychopathology and presence of thriving). The findings of this study also provide initial evidence that addressing teacher well-being through a more positively-focused, strengths-based approach may reduce mental health concerns including stress and

burnout which have had damaging economic implications on school districts (i.e., absenteeism, migration, attrition, etc.) in recent years.

Contributions to the Literature

Although the efficacy of PPIs on adults is well-documented in the literature, there is minimal literature that has explored the efficacy of PPIs on teachers' well-being. Such interventions have targeted positive psychology related constructs (i.e., mindfulness, gratitude), as well as a multi-target psychoeducational program intended to explore the benefits of positive psychology principles through professional development training. A majority of these teacher interventions have been evaluated outside of the United States (e.g., China, England, and Australia) and often do not examine the intervention's contribution to indicators of teacher happiness. Most notably, to date, no study has explored the efficacy of *Using Strengths in a New Way* PPI on teachers indicators of SWB or secondary factors related to well-being in the workplace. Research has shown this strengths-focused intervention to have the most significant effect with observed long-term benefits for adults (Seligman et al., 2005). However, this study is the first of its kind to explore the benefits of the strengths-based intervention on teacher-related outcomes.

Additionally, this study contributes significantly to the positive psychology research which often explores the efficacy of PPIs using randomized controlled studies or quasi-experimental methods. Although such research has unveiled the positive contributions of PPIs to improving happiness and decreasing indicators of psychopathology among groups of people, such methodological approaches provide little indication of how such interventions impact persons on an individual basis. Lyubomirsky and Layous (2013) emphasize that gains in SWB vary across people as a results of various factors including features of the activity (e.g., variety,

sequence, and dosage) and person-centered features (e.g., engagement, personality, motivation, acceptability, and initial affective state). Even with this understanding, there are currently no published studies that have explored the impact of PPIs on individual's SWB through single-case design research. This study was novel given that it utilized a multiple baseline, single-case design to explore improvements in SWB over time. Most importantly, it unveiled variability in treatment effects among indicators of SWB with some elementary teacher participants exhibiting better gains than others. It also revealed that two teachers exhibited minimal to negative gains in specific factors of SWB that may not have been apparent using methodological approaches that aggregate participant data. Although the exploration of individual factors impacting the efficacy indicators of SWB for individual participants was not the primary focus of this study, there are potential reasons why some participants may not have benefited as well as others. The extreme variance in the self-reporting of emotions on an every-other-day basis may have possibly contributed to this outcome. One teacher in particular (Participant 5) who reported ongoing fluctuations in emotions on a daily basis may have benefitted from additional ongoing supports that served to regulate emotions prior to increasing the frequency of positive emotions over time. Additionally, this participant completed all intervention activities in the shortest span of time which may have also reduced the appropriate dosage for her to experience its full benefits. Another participant who demonstrated minimal to negative effects (Participant 4 often indicated to this author that she felt that she was experiencing the positive effects of the intervention but felt that measures of SWB used in the study were not accurately capturing this impact.

Future Directions

Broaden range of outcomes examined. Although outcomes revealed strong promise for the strengths-based intervention's efficacy in promoting elementary teachers' well-being, further

research is warranted to determine its impact both on proximal (i.e., teacher and classroom outcomes) and distal (student outcomes) factors that contribute to a healthy classroom environment. The results of this study suggest several possible benefits of the brief intervention specifically for teachers' well-being including improved indicators of subjective well-being (i.e., increased life satisfaction and combined SWB; decrease in negative affect) and thriving (i.e., increased work satisfaction and individual flourishing), as well as reduced factors of stress and burnout (i.e., emotional exhaustion). However, more extensive evaluation of teacher-specific improvements could shed further light on how the strengths-based intervention contributes to specific factors of teacher well-being based on a much more comprehensive conceptualization. Van Horn and colleagues (2004) suggest that teacher occupational well-being encompasses five specific dimensions including: (1) *affective* (i.e., job satisfaction, organization commitment, emotional exhaustion), (2) *professional* (i.e., ambition, professional competence, self-efficacy, independence), (3) *social* (i.e., depersonalization, social functioning with students and colleagues), (4) *cognitive* (i.e., functioning at work), and (5) *psychosomatic* (i.e., psychosomatic complaints, physical health problems) well-being. Future studies could further evaluate the impact of the intervention based on one or more components of this comprehensive framework.

Additionally, future research is needed to determine the intervention's contribution to factors of classroom climate (e.g., student-teacher relationships, perceived instructional and emotional support, classroom management) and student outcomes (e.g., student social-emotional competence, classroom engagement, behavior, and student achievement). As emphasized in Jennings and Greenberg's (2009) Prosocial Classroom Model, healthy classroom environments are sustained through teachers' development in social-emotional competence and well-being that supports their ability to establish healthy teacher-student relationships, implement effective

classroom management, and promote quality social-emotional learning within the classroom. Combined, these factors all contribute to an overall healthy classroom climate allowing students to thrive both social-emotionally and academically. Additionally, such factors can also be considered transactional given that a thriving classroom environment may continue to support a teacher's joy of teaching and self-efficacy which further supports their commitment to the profession. Overall, this model simulates a continuous positive feedback loop that not only prevents teacher burnout, but also supports growth in student academic achievement. As an intervention developed to support teachers' well-being and positive functioning in the school and classroom context, further research could focus on revealing the intervention's impact according to elements relevant to the theoretical model, as well as mediating factors of change that would uncover specific pathways that contribute to the effects of the intervention.

Isolate immediate and delayed effects of intervention. It would also be beneficial to examine the intervention using other methodological approaches including randomized controlled trials that could evaluate the intervention's impact as compared to a control group. This could ensure that the intervention alone contributed to positive teacher outcomes, rather than just the time and individualized supports provided. This would also warrant the need for the intervention to be implemented with larger samples and with different populations of teachers (e.g., school type, grade level taught, school-level SES, education level, years of teaching). Furthermore, research is needed to better understand the intervention's long term impact. As observed in this study, the intervention had delayed effects (i.e., on flourishing and emotional exhaustion) and indications of increased positive emotions over time which could be more clearly understood with additional follow-ups. Such data could reveal that some intervention effects take more time to emerge, while other outcomes ultimately dissipate.

Additionally, it would have also been beneficial to examine mediators and moderators of change related to teacher-related outcomes including the specific strengths-use and strengths-spotting (Linley et al., 2010) gained by teachers' participation in the intervention. In addition, it would have also be relevant to examine the influence that the interventionist had in supporting teachers' well-being; specifically, the relationship built with the interventionist or specific characteristics of the interventionist that could have influenced changes in the teachers. This idea is in line with the effects of common factors on improvements seen in psychological interventions; sometimes, the intervention strategy (i.e., new use of character strengths) is less powerful than the positive effect of hope or a warm, caring relationship between interventionist and client (Wampold & Imel, 2015)

Improve intervention acceptability. The strengths-based intervention could be modified to reflect the teacher participants' suggestions. This would include adding a teacher support group or teacher pairing to provide further accountability and assistance to develop ideas and strategies for how to implement signature strengths within the classroom and school context. Additionally, the intervention's duration could be lengthened to include more opportunities for teachers to implement more signature strengths with direct feedback and accountability of performance by the interventionist.

Conclusions

Further research is needed to determine effective interventions that can positively contribute to improved teacher well-being including increased indicators of happiness and work-related satisfaction, as well as reduced symptoms of mental health (i.e., stress and burnout). This initial study of an innovative intervention provides a preliminary indication of the potential benefits of the strength-based intervention in terms of promoting indicators of well-being

including overall happiness and workplace satisfaction. Overall results provide some evidence that the strengths-based intervention significantly increased indicators of subjective well-being with the strongest evidence of a treatment effect found for participants' increased levels of combined SWB. Additionally, there was partial evidence of a treatment effect for life satisfaction, as well as positive changes in positive and negative affect among elementary teachers; however, further research is needed to determine if such changes were a direct result of teachers' participation in the strengths-based intervention versus other intervening factors. Additionally, results from this study provide evidence that the elementary teachers' experienced decreased stress and increased work satisfaction over the course study with delayed effects in reduced emotional exhaustion and gains in perceived flourishing one-month following the intervention's implementation. Further research is warranted to fully understand the effects of the strengths-based intervention on both on teacher outcomes, especially at the individual level. Additionally, further research is needed to explore the intervention's indirect impact on student outcomes (e.g., achievement performance, social-emotional well-being), as well as classroom and school environment.

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Appendices

Appendix A: Classification of 24 Character Strengths

1. **Wisdom and knowledge**—cognitive strengths that entail the acquisition and use of knowledge
Creativity: Producing original ideas that make a positive contribution to self or others
Curiosity: Having openness and interest to a novel experience
Open-mindedness: Willingness to think about ideas from all perspectives
Love of learning: Cognitively engaged in mastering new bodies of knowledge
Perspective: Ability to impart wisdom and counsel to others
2. **Courage**—emotional strengths that involve the exercise of will to accomplish goals in the face of opposition both externally and internally
Bravery: Readiness to face a challenge or fear with willingness to stand up for what is morally valued
Persistence: Persevering through a task even when faced with difficult obstacles
Authenticity: Relaying honesty, genuineness of character, and responsibility for actions
Zest: Displaying enthusiasm and vigor for any and all of life’s activities
3. **Humanity**—interpersonal strengths that involve tending and befriending others
Love: Cognitive, behavioral, and emotional attitude of care and affection that is displayed through a variety of relationships
Kindness: Demonstrating generosity and care towards others
Social intelligence: Having an acute awareness of others’ feelings and motives
4. **Justice**—civic strengths that underlie healthy community life
Citizenship/teamwork: Exhibiting loyalty and working well within a team
Fairness: Treating others with same level of respect and removing all biases
Leadership: Actively guiding and encouraging others based on a common cause
5. **Temperance**—strengths that protect against excess
Forgiveness/mercy: Displaying forgiveness and amnesty towards others
Modesty/humility: Having an accurate awareness of one’s abilities and allowing your accomplishments to speak for themselves
Prudence: Having practical reasoning and self-management skills
Self-control/self-regulation: Exhibiting self-discipline and being able to manage your actions and behaviors
6. **Transcendence**—strengths that forge connections to the larger universe and provide meaning
Appreciation of beauty and excellence: Ability to recognize and take pleasure in the existence of beauty in all domains of life
Gratitude: Having a sense of thankfulness and appreciation for life’s good happenings
Hope: Displaying optimistic expectations for the future
Humor: Exhibiting a cheerful and playful view of the world that brings smiles and laughter to others
Spirituality: Acknowledging a transcendent dimension of life that is pervasive and stable and gives higher purpose and meaning to one’s actions

Appendix B: Letter for School Recruitment



Department of Educational and Psychological Studies
College of Education
University of South Florida
4202 East Fowler Avenue
EDU 106
Tampa, Florida 33612

Attn: (Site Coordinator/Contact)

**Subject: Proposal to Recruit Teachers to Participate in the “Improving Elementary Teachers’ Well-Being through a Strengths-Based Intervention”
Project (IRB #Pro00020048)**

Dear _____,

My name is Mollie McCullough, and I am a doctoral candidate in the school psychology program at the University of South Florida. I am leading a thesis research study, along with my supervising professors (Shannon Suldo, Ph.D., Sarah Kiefer, Ph.D., and John Ferron, Ph.D.), that will determine the impact of a strengths-based intervention for elementary teachers in terms of improving teachers’ overall happiness and indicators of well-being. This study will involve the participation of nine elementary teachers whose level of happiness will be measured on a daily basis over a couple of weeks. During this time period, each teacher will participate in a two-week strengths-based intervention called “Using Signature Strengths in a New and Different Way” that will include four face-to-face meetings with me. The intervention will reveal each teacher’s signature character strengths and will support teachers in applying such strengths within the classroom context.

Previous research has shown this specific intervention to be especially effective with adults in improving overall indicators of well-being and mental health. I am writing (talking) with you with hopes that I could recruit teachers through within your school site to participate in the intervention for this research. At the conclusion of my research, I would be eager to share my findings with your school in order to increase knowledge about the effectiveness of the intervention and ways that teachers’ well-being can be supported within the school context.

Recruitment

With your permission, we would like to provide you with flyers describing this study for you to make available to teachers within your school. We ask that you post single flyers to visible locations and share the information from the flyer to the entire staff at your convenience. Eligible participants are elementary teachers who are currently teaching grade levels, kindergarten through grade five and are actively teaching within the classroom.

Informed Consent

Teachers will be provided the full details of the study to allow them the opportunity to make a well-informed decision to volunteer as a participant in this research study. Teachers who elect to participate in the study will have the option to discontinue their participation at any time.

Data Collection Process

Once consent is obtained, a teacher participant will be asked to complete an initial set of surveys that include a brief demographic background questionnaire and other indicators of individual well-being. These initial surveys will take up to 30 minutes to complete. Participants will then be shown how to complete daily online surveys evaluating each participant's level of happiness that can be completed on any technological device (e.g., computer, tablet, smart phone) and will take approximately 5 minutes to complete.

Participants will then be notified when they will enter the intervention phase and will complete four face-to-face meetings with me to discuss personal character strengths and how such strengths can be utilized within the classroom environment. Each meeting will last approximately 60 minutes. Throughout the intervention phase, participants will be continuing to complete daily online surveys measuring levels of happiness, in addition to tracking how he or she implemented the intervention.

At the conclusion of the intervention phase, participants will complete a final packet of surveys that will again evaluate each participant's well-being and evaluation of the intervention's impact and feasibility. Additionally, participants will be asked to complete additional surveys one-month following the completion of the intervention phase. At both of those times, it will take participants approximately 30 minutes to complete the survey packet. Teachers' responses will be held in the upmost of confidentiality throughout the process.

Resources Requested

We estimate that the level of effort required from your staff to assist with the data collection previously described would be fairly minimal. The specific assistance needed would include helping to identify individuals to recruit for the study as specific above (e.g., posting recruitment materials, sharing recruitment information with teaching staff). In addition, we would also request to be able to schedule meetings at a time and place at your school that would be convenient for you and your staff to facilitate data collection and intervention meetings.

Benefits of Participation

The purpose of this study is to determine how an evidence-based intervention used to increase adult happiness and indicators of well-being specifically impacts elementary teachers and their personal wellness. Participants may feel pleased that their participation is helping to determine if such an intervention has a positive impact on teachers' well-being within the school context, which in turn could support a healthier classroom learning environment for both teachers and students. If your site is interested in receiving a summary or presentation of research findings and implications on ways to support teachers' well-being in the classroom and school context, the results from this study could also be helpful for your school in any efforts made to further understanding how to improve teachers working conditions and to support a positive school climate and working environment.

Teacher participants will also receive a monetary compensation in appreciation for their participation in the study. Specifically, participants will be given \$25 for completing the intervention and \$25 for completing the study after the final packet of surveys is complete.

Final Thoughts

We hope you will consider allowing us to work with your school for this important and timely study, which we anticipate will provide much needed and influential guidance to schools interested in support teachers' wellness and supporting a positive, healthy work environment. Please feel free to contact the Principal Investigator, Mollie McCullough, by phone (863-944-3029) or email (mmccullough@mail.usf.edu) with any questions that you might have. We thank you for your consideration.

Mollie McCullough, M.A., Principal Investigator
Shannon Suldo, Ph.D., Faculty Advisor

Improving Teacher Well-Being Through a Strengths-Based Intervention

University of South Florida
USF IRB Study #Pro00020048
Hillsborough IRB Study #RR1415-57



Research Study Details:

WHO: Teachers in elementary grades level (kindergarten through grade 5) who are currently implementing instruction within the classroom setting and are willing to participate in an exploratory intervention study to determine impacts on levels of personal happiness and overall indicators of well-being.

WHAT: Strengths-based, positive psychology intervention that will be conducted on an individual basis with selected teachers. Teachers interested in participating will first be screened using a measure of happiness to indicate if he or she has room for growth. Once selected, participants in the study will be asked to complete online surveys three times a week evaluating indicators of happiness that can be completed on any technological device (e.g., computer, tablet, smart phone) and will take approximately 5 minutes. Additionally, prior to the intervention, participants will complete measures evaluating overall happiness and well-being. Participants will then be notified when they will enter the intervention phase and will complete four face-to-face meetings with the primary researcher to discuss personal character strengths and how such strengths can be utilized within the classroom environment. Each meeting will last approximately 60 minutes. Throughout the intervention phase, participants will continue to complete daily online surveys measuring levels of happiness, in addition to tracking how he or she implements the intervention. At the conclusion of the intervention phase, participants will again be evaluated on overall levels of happiness and well-being and then be asked to complete additional surveys one-month following the completion of the intervention phase. Each packet of surveys will take approximately 30 minutes to complete.

WHEN: Completed within the early Spring semester, teachers will participate in four face-to-face meetings with the lead investigator exploring personal strengths and how such strengths can be applied within the classroom context. Meeting times will be scheduled based at the participant's convenience.

WHERE: All intervention meetings will take place at the participant's school

WHY: What we currently know in the field of positive psychology is that interventions targeting various positive constructs (e.g., gratitude, character strengths, optimism) have proven to significantly improve levels of happiness and overall mental health for both adults and children. Higher indications of happiness, in turn, result in better outcomes including quality work performance and productivity, improved health, and reduced physical ailments to name a few. To date, minimal research exists on how an evidence-based, positive psychology intervention used to increase adult happiness and indicators of well-being specifically impacts elementary teachers and their personal wellness. More importantly, such interventions have not specifically targeted personal character strengths. Participants will help to determine if such an intervention has a positive impact on teachers' well-being within the school context, which in turn could support a healthier classroom learning environment for both teachers and students.

COMPENSATION: Participants will receive a \$25 gift card after the completion of the intervention and an additional \$25 gift card at the conclusion of the follow-up surveys.

WHO DO YOU CONTACT: Mollie McCullough, M.A. (mmccullough@mail.usf.edu or 863-944-3029) or Shannon Suldo, Ph.D. (suldo@usf.edu) at the University of South Florida

Slide 15

WHAT does the intervention entail?

- **WHAT WILL:**
 - > Participants take part in a strengths-based, positive psychology intervention that will be conducted on a weekly basis
 - > Participants will complete the intervention, complete daily activities (approximately 5 min) for up to three weeks
 - > Participants will attend the intervention phase consisting of four face-to-face sessions
 - > Participants will complete surveys, as well as
 - >

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WHEN will the intervention take place?

- The intervention will take place throughout the Fall semester (October – December)
- The follow-up will take place early in the Spring semester
- The intervention will take place in four face-to-face sessions (60-minutes) during the intervention phase (60-minutes) during the intervention phase
- The intervention will be delivered via packets pre-prepared for the intervention following the completion of the surveys
- The intervention will be delivered via packets pre-prepared for the intervention following the completion of the surveys

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WHY participate?

- Research has shown that positive psychology interventions can significantly improve levels of well-being and reduce mental health problems
- We have researched the effectiveness of these interventions
- We have developed a strengths-based intervention for teachers
- We have developed a strengths-based intervention for teachers and we will be conducting the intervention in the future

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WHY participate?

- You will be compensated for your time
- All participants will receive a \$25 gift card at the completion of the intervention and an additional \$25 gift card at the completion of the follow-up surveys

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WHO do you contact?

- Contact M. McCullough, M.A.
 - > mmccullough@mail.usf.edu
 - > [813.974.2111](tel:8139742111)
- Contact Dr. Suldo, D.
 - > suldo@usf.edu

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Final Thoughts or Questions?

Appendix E: Participant Consent Form

Informed Consent to Participate in Research **IRB Study #Pro00020048**

You are being invited to participate in a research study that will investigate how teachers' happiness, well-being, and health are impacted through participation in a strengths-based intervention. This letter provides information about the study we will conduct to determine the effect of cultivating educator's strengths in the classroom.

- **Who We Are:** The research team is led by Mollie McCullough, M.A., a doctoral student under the supervision of Shannon Suldo, Ph.D., a Professor in the School Psychology Program at USF. We are planning the study in cooperation with your school's administration.
- **Why We Are Requesting Your Participation:** The study is being conducted as part of a project entitled, "Improving Elementary Teachers' Well-Being through a Strengths-Based Intervention." You are being asked to take part as a participant who will provide valuable information on an understudied topic—teacher happiness. Happiness has been shown to be increased through a variety of targeted interventions and demonstrated multiple benefits including improved health, social relationships, and work productivity. There is some research that shows that teachers' happiness and positivity towards the profession can be improved; however, the research is limited and available interventions are minimal. Your participation in this study will determine the value of a strength-based intervention for teachers in the workplace and other areas of life.
- **What Participation Will Require:** If you agree to participate in this study, you will be asked to participate in a daily data collection process that will last six weeks, as well as agree to participate in a two-week intervention which will include four face-to-face meetings. Prior to the intervention and throughout the intervention, you will complete daily surveys that will take up to 5 minutes to complete. During the intervention, you will first complete a questionnaire that will reveal your personal strengths. Then, you will be asked to apply some of these strengths in new ways within the classroom for a two-week time period. On an every-other-day basis (three times a week) one to three weeks prior to the intervention, during the intervention, and one to three weeks following intervention, you will be prompted through email to answer a variety of questions regarding your current state of happiness. During the intervention, you will keep a daily log of your uses of your strength(s). It should take about 5 to 10 minutes to complete each journal entry. A final part of participation involves completing a series of surveys on three occasions (one-week before the intervention, then one-week and one-month after the intervention is done). Questions in these surveys will ask about your current feelings and emotions. The completion of these surveys should take about 30 minutes at each time occasion. All discussions during each session will be audiotaped for later review or transcription that

Appendix E: Participant Consent Form (continued)

will only be reviewed by approved members of the research team. Consenting to participate in this project indicates your consent to be audiotaped.

- Total Number of Participants: About nine individuals who are actively teaching grades kindergarten through 5th grade will take part in this study.
- Confidentiality of Your Responses: There is a minimal risk to you for participating in this research study. Your privacy and research records will be kept confidential to the text of this law. Authorized research personnel, employees of the Department of Health and Human Services, the USF Institutional Review Board and its staff, and other individuals acting on behalf of USF may inspect the records from this research project, but your individual responses will not be shared with school system personnel or anyone other than us and our research assistants. Your completed questionnaires will be assigned a code number to protect the confidentiality of your responses. Only we will have access to the locked file cabinet stored at USF that will contain all records linking code numbers to participants' names. All records from the study (completed surveys, daily journals) will be destroyed five years after the study is completed. Please note that although your responses and comments will not be shared with school staff, if you indicate that you intend to harm yourself or someone else, or if your responses on specific surveys indicate extreme emotional distress, we will provide you with a referral to a counselor with whom you may discuss your feelings. It is possible that unauthorized individuals could gain access to your online responses. Confidentiality will be maintained to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the Internet. However, your participation in this online survey involves risks similar to a person's everyday use of the Internet. If you complete and submit an anonymous survey and later request your data be withdrawn, this will not be possible as the researcher will be unable to extract anonymous data from the database.
- What We Will Do With Your Responses: We plan to use this information from this study to inform educators and psychologists about activities that foster feelings of happiness in teachers, as well as educate others about the link between teacher's happiness and positive outcomes in the workplace for educators. The results of this study may be published. However, the data obtained from you will be de-identified and not include your name or any other information that would in any way personally identify you.
- Alternatives: You **do not** have to participate in this research study. Your decision to participate in this research study is completely voluntary. If you decide to participate, not to participate, or to withdraw participation at any point during the study will in no way affect your job status at the school or with any other party.
- Benefits: The potential benefits of participating in this research study include the opportunity to significantly improve levels of happiness and overall mental health that has been evidenced within other similarly conducted interventions with adults. Higher

Appendix E: Participant Consent Form (continued)

indications of happiness, in turn, result in better outcomes including quality work performance and productivity, improved health, and reduced physical ailments to name a few. To date, minimal research exists on how an evidence-based, positive psychology intervention used to increase adult happiness and indicators of well-being specifically impacts elementary school teachers and their personal wellness. More importantly, such interventions have not specifically targeted personal character strengths. Participants will help to determine if such an intervention has a positive impact on teachers' well-being within the school context, which in turn could support a healthier classroom learning environment for both teachers and students.

- Risks or Discomfort: This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study.
- Compensation: Participants will receive a \$25 gift card after the completion of the intervention and an additional \$25 gift card at the conclusion of the follow-up surveys
- Cost: There will be no additional costs to you as a result of being in this study.
- Questions?: If you have any questions about this research study, please contact Mollie McCullough at (863) 944-3029. If you have any questions about your rights as a person who is taking part in a research study, you may contact a member of the Division of Research Integrity and Compliance at the University of South Florida at (813) 974-5638, and refer to eIRB #Pro00020048.
- Want to Participate?: To participate in the study, please complete the attached consent form. The second copy of this letter is yours to keep.

Sincerely,

Mollie McCullough, M.A.
Graduate Student
School Psychology Program

Shannon Suldo, Ph.D.
Professor, School Psychology
Dept. of Educational & Psychological Studies

Appendix E: Participant Consent Form (continued)

Consent to Take Part in this Research Study

I freely give my permission to take part in this study. I understand that this is research. I have received a copy of this letter and consent form for my records.

Signature of participant taking part in
the study

Printed name of participant

Date

Statement of Person Obtaining Informed Consent

I certify that participants have been provided with an informed consent form that has been approved by the University of South Florida's Institutional Review Board and that explains the nature, demands, risks, and benefits involved in participating in this study. I further certify that a phone number has been provided in the event of additional questions.

Signature of person obtaining consent

Printed name of person
Obtaining consent

Date

Appendix F: Qualtrics Daily Survey and Journal Log

USF UNIVERSITY OF SOUTH FLORIDA

The following questions provide five statements that you may agree or disagree with. Using the 1-7 scale, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

	7 - Strongly Agree	6 - Agree	5 - Slightly agree	4 - Neither Agree nor Disagree	3 - Slightly Disagree	2 - Disagree	1 - Strongly Disagree
In most ways my life is close to my ideal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The conditions of my life are excellent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
So far I have gotten the important things I want in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I could live my life over, I would change almost nothing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer. Indicate to what extent you have felt this way during the day. Using the following scale to record your answers:

	1 - Very slightly or not at all	2 - Alike	3 - Moderately	4 - Quite a bit	5 - Extremely
Interested	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distressed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Appendix G: Strengths-Based Intervention Manual

Procedures for Intervention Sessions:
Improving Teacher's Individual Well-Being

Intervention Manual

Mollie McCullough and Shannon Suldo

Spring 2015

Appendix G: Strengths-Based Intervention Manual (continued)

Intervention overview. The interventionist will meet with each participant on an individual basis and will follow each proposed step of the following intervention procedures, enacted in 4 sessions over an approximately 2-week time period. The meeting schedule selected should be most convenient for the teacher; sample meeting schedules include: Friday, Monday, Monday, Friday; Monday, Tuesday, Tuesday, Monday; Monday, Tuesday, Monday, Friday.

Session 1. During the initial session, the participant will first be introduced to the Park, Peterson, and Seligman's (2004) defined character strengths which are referred to as "traits that reflect thoughts, feelings, and behaviors" (p. 603). The interventionist will share the "Classification of 24 Character Strengths" handout and will interactively discuss the meaning of each of the 24 strengths with the participant and draw connections to the classroom context. A comprehensive review of each character strength will ensure that the participant has full understanding of the meaning of each character strength within their own frame of reference. The participant will then develop a list of what he or she thinks are his or her top 5 character strengths, and will write ideas on the "My Personal Character Strengths" handout. The participant and interventionist will discuss the strengths that the participant identified for him/herself, and discuss why he or she selected each strength. Then, the interventionist will discuss with the participant how using character strengths may relate to positive feelings. The participant will generate examples of how use of character strengths has benefited him/herself (e.g., feelings of happiness and contentment) and others (enhanced social relationships and learning in the classroom). These examples will be recorded on the "Connecting Character Strengths to Positive Experiences" handout. Participants will then be directed to complete the inventory of character strengths (Values in Action; VIA-IS described below) through an online survey provided at www.authentichappiness.org, which should take approximately 30 to 40 minutes to complete. The participants will be pre-registered to complete the survey prior to the first session. The interventionist will follow the online instructions and review the instructions for completing the questions provided online with the participant. Once the participant has completed the measure, the interventionist will unveil the participant's 5 top signature strengths to read and review. The interventionist will schedule a time with the participant to meet within the next 48 hours, such as the following day (Session 2).

Appendix G: Strengths-Based Intervention Manual (continued)

Session 2. Having just completed the VIA-IS online survey, participants will receive individualized feedback from the interventionist regarding their top five “signature” strengths (Peterson et al., 2005). The participants will then compare their top 5 strengths generated by the VIA-IS to their initial list and discuss similarities, differences, and any reactions to the results. If the participant strongly feels that any strength does not fit/describe him or her, the participant will cross out the strength on their list as this is not a good match for him or her. The interventionist will then ask the participant to discuss in what ways he or she has used the signature strength recently in any domains of life (i.e., family, friends, work). The interventionist will then ask the participant to select one of his or her top five signature strengths to be utilized in new and different ways for one week. The participant’s ideas will be collected on the “New Uses of My First Signature Strength” handout. The interventionist will work individually with the participant to develop ideas on how his or her selected signature strength can be utilized in multiple new and different ways within the school setting (see handout “Connecting Character Strengths to the Classroom” for a list of examples developed from Rashid and Anjum (2008) *340 Ways to Use VIA Character Strengths*), for each day during the intervention phase. Next, participants will be directed to use one of these top strengths in a new and different way within the classroom every day for one work week (i.e., 5 school days). The interventionist will show the participant how he or will track how the ‘signature’ strength is used in new ways through journaling (e.g., “I demonstrated an appreciation of beauty and excellence by recognizing one of my student’s writings that described her personal hero. I read her work in front of the class and described how she used excellent descriptive words in her paper.”). The journal will be provided through a free-write space provided on the Qualtrics survey that will be tracked on an every-other-day basis. The Qualtrics items will also contain two surveys that track participants overall level of life satisfaction and emotions. The interventionist will check-in with participants regarding ease of online survey completion, and address any barriers or concerns. The interventionist will copy the completed New Uses of My First Signature Strength form and return the original to the participant, so he or she can refer to the plan throughout the week.

Session 3. One week (i.e., 5-7 days) after completing *Session 2*, the interventionist will meet with the participant for another formal session. The interventionist will discuss with the participant his or her progress in the daily completion in using his or her signature strength in

Appendix G: Strengths-Based Intervention Manual (continued)

new and different ways, as well as review data collection procedures (progress completing web-based survey level data and journaling). The interventionist will support the participant if having difficulty with the process, and guide the participant in problem-solving any difficulties. The participant will be asked to describe at least two examples of new ways that he or she has used the chosen signature strength during the last week, and reflect on his or her feelings related to the use of the strength within the classroom context. The interventionist will inquire if any difficulties have made it hard for the participant to use his or her strength; as needed, the interventionist will help problem-solve ways that such obstacles could be addressed.

Following the discussion of the first week of the intervention, the interventionist will prompt the participant to select another signature strength which he or she would like to work on within the second week (i.e., 5 work days) of the intervention. The interventionist will provide an additional handout entitled “New Uses of My Second Signature Strength” allowing the participant to write out his or her ideas for how to use the strength in new and different ways and provide the participant guidance through the pre-generated list of ideas (refer to “Connecting Character Strengths to the Classroom” handout). The interventionist will provide the participant any needed support including addressing any obstacles that may limit him/her in performing the daily completion of the tasks and any clarification in terms of maintaining focus on the specific selected strength. The interventionist will review procedures for data collection of surveys (i.e., SWLS, PANAS) and journaling of how his or her strength was used in a new way each day, and feelings associated with such uses. The interventionist will copy the completed record form and return the original to the participant, so he or she can refer to the plan throughout the week.

Session 4. One-week (i.e., 5-7 days) after completing *Session 3*, the interventionist will meet with the participant to review the completion of the second week intervention tasks in using his or her signature strength in a new and different way. The participant will be prompted to describe how use of strengths impacted one’s personal well-being and/or the classroom context, for instance student engagement. As needed, the interventionist will discuss with the participant any obstacles that may have arisen during attempts to complete the daily task (application of strengths). The interventionist will check-in with the participant’s progress with data collection procedures, including survey completion and journaling. After reviewing the completion of the second week task of the PPI, the interventionist will prompt the participant to discuss how he or

Appendix G: Strengths-Based Intervention Manual (continued)

she will continue to utilize his or strengths in new ways and maintain the use of strengths on a continuous basis. The interventionist will convey the importance of continued effort to use ones strengths in new ways, emphasizing with variety in applications, in part to avoid hedonic adaptation and thus continued growth in well-being. The interventionist will present the participant with a “Certificate of Completion” that accounts for his or her participation in the intervention. The interventionist will then direct the participant to complete the “Treatment Acceptability Form” that allows the participant to provide his or her perspective of the intervention in terms of the overall feasibility and adequacy of the intervention’s tasks within the school context.

Table 1

Summary of Intervention Schedule

Session	Activity
1	Participant introduced to the Park, Peterson, and Seligman’s (2004) “Classification of 24 Character Strengths.” The participant generates a list of strengths that he or she believes he or she possesses and discusses reasoning. Participant learns how character strengths are related to happiness. The participant completes the Values in Action Inventory of Strengths (VIA-IS), a 240-item instrument that uses a 5-point Likert scale to measure the degree to which participants endorse each of the 24 character strengths. The participant’s top five “signature” strengths will be unveiled briefly.
2	Participant reviews his or her top five “signature” strengths, and evaluates them in terms of compatibility with expectations and recent uses in life domains (i.e., family, friends, work). Participant selects one strength to use in new and different ways at school for one work week. The participant is shown how to complete the online journal to track how he or she has used the signature strength in new ways, along with completing measures, every other day.
3	Participant discusses progress in completing daily intervention task in using a signature strength in new and different ways within the context of school and teaching. Participant will problem solve with interventionist any difficulties and reflect on experience. A second signature strength is selected to use in new and different ways during the second week.
4	Participant reviewed experience in completing daily intervention tasks in using a second signature strength in a new and different way within the school context and created a plan for how he or she would continue to use his or her strengths focusing on strategies that worked best for the participant (i.e., person-activity fit). Participant learned about the three components of happiness (i.e., genetic set point, life circumstances, purposeful activities) and

Appendix G: Strengths-Based Intervention Manual (continued)

the importance of continuing to implement strengths based on research identifying the *hedonic treadmill*. Participant completed a treatment acceptability measure (i.e., IRP-15) and post-assessment measures. Participant received a certificate of completion for finishing the intervention.

Session 1 (Preparation):

- Introduce the Park, Peterson, and Seligman’s (2004) defined character strengths which are referred to as traits that reflect thoughts, feelings, and behavior.
 - Ask: *For the next hour, we are going to talk about strengths of character. How would you define a character strength or virtue of a person?*
 - Discuss that character strengths are moral strengths done by choice, which is different from talents: *Talents are qualities that you are born with but may be improved somewhat by purposeful actions (e.g., perfect pitch in your singing voice, rhythm in dance, running speed). However, character strengths are moral virtues that are built-up and used by choice (integrity, kindness, fairness, originality)*
 - Interventionist provides own/personal examples of talents vs. moral strengths
 - Overview of Park, Peterson, and Seligman’s (2004) character strengths: *Character strengths as we are going to learn and work on together are a set of 24 individual positive traits that are a part of six broader classes of virtues. Psychologists have found that each individual has a unique profile of signature strengths that are apparent in one’s daily behavior. This set of 24 character strengths reflects traits that are highly valued by many cultures across the world, and can be applied to many domains of life including the workplace.*
- Share the “Classification of 24 Character Strengths” handout and clearly define each of the 24 identified strengths into comprehensible descriptions providing tangible examples that draw connections to the classroom context.
 - Introducing Character Strengths: *In order to gain a better understanding of all 24 character strengths, we are going to briefly review and discuss together each of the character strengths, which are listed for you on this handout (refer to the “Classification of 24 Character Strengths handout). As I review each of the strengths aloud, I would like for you to ponder which of the strengths you feel best represent you as an individual and your typical behaviors and feelings.*
 - Example reading of the initial few character strengths under the designated virtue:
 - **Virtue:** *One of the first virtues includes Wisdom and Knowledge which represents all of the strengths relevant to gaining and using knowledge to support one’s personal learning or the learning of others.*
 - **Character Strength:** *Within the virtue category of Wisdom and Knowledge, the first listed character strength is Creativity, which is defined as producing original ideas that make a positive contribution to yourself or others. One way that teachers can show creativity is through creating an applied learning activity that helps reinforce a concept in a memorable way, for instance by teaching children the growth cycle by giving them a*

Appendix G: Strengths-Based Intervention Manual (continued)

capsule with a larva in a jar and letting them watch it transform into a butterfly.

- **Character Strength:** *Another character strength within the virtue category of Wisdom and Knowledge includes the strength of Curiosity, which represents the openness or personal willingness to experience something new that one has never experienced before. Teachers can demonstrate the strength of Curiosity by applying a **new** behavioral management technique such as positive praise with one's students to explore its possible benefits on students' behavior and emotions.*
 - **Character Strength:** *Open-mindedness refers to being willing to take on another perspective or being open to understanding another's viewpoint free of judgment. Teachers who ask for peer support or coaching from another teacher in order to evaluate and develop a specific teaching skill (like establishing quality hooks to start a lesson) are demonstrating the character strength of Open-mindedness.*
 - **Character Strength:** *Love of learning characterizes an individual's passion and enthusiasm for learning new knowledge. When teachers read up on a new education topic (e.g., Daily 5 or Daily 3 by The Sisters, The Book Whisperer) or learn about and incorporate a new teaching skill (such as building reading stamina for students, incorporating appropriate reading or math centers), teachers are exhibiting a Love of learning in the classroom.*
 - **Character Strength:** *The final strength under this virtue is demonstrating Perspective which is the ability to provide productive support and guidance to others and/or asking for support from others when wanting to reach a new personal goal. Teachers can demonstrate this strength when coaching another teacher to develop a new teaching skill.*
 - **Transition:** *As I continue to read through the remaining virtues and corresponding strengths, remember to keep in mind which strengths you feel best represent you. Feel free to mark or circle them as we go along, as after we define all 24 I will ask you to identify up to five of the 24 character strengths that you feel best characterize you.*
*Continue to read and paraphrase the remaining character strengths providing the definition ONLY. Ensure the comprehension of each character strength by clarifying definitions as necessary addressing all questions that arise.
- Participants will develop a list of ideas as to what he or she thinks is his or her top 5 character strengths and will write these ideas of one's anticipated strengths in the left column of the handout entitled "Connecting Character Strengths to Positive Experiences"
 - *Think about times that you have been at your best in the classroom and in your life in general (home, family, etc.). Of the 24 character strengths (refer to the "Classification of 24 Character Strengths" form), what strengths do you feel best describes your strong qualities?"*

Appendix G: Strengths-Based Intervention Manual (continued)

- Prompt teachers to continue identifying strengths until they have listed five on the paper. If they identify with a few others, list those too.
- After the participant generates a list of 5 self-identified character strengths, the interventionist will prompt the participant to discuss why he or she selected at least 2 to 3 strengths: *In what ways do you feel that you possess this quality? How does this strength come through (or is demonstrated) in your classroom or teaching?*
- Discuss with the participant how using character strengths may relate to happiness in the present time: *When you are using your personal character strengths in those ways [paraphrase participants' examples from point above], what emotions have you felt in the moment or afterwards? And what effects have you seen on others, like your students, when you're at your best?*
 - Prompt the participant to generate a list of ideas connecting character strengths to happiness and record the list of positive experiences that flow from a given character strength in the far right column of the handout entitled "Connecting Character Strengths to Positive Experiences." Participants will focus on the feelings experienced both during and after he or she applies his or her character strengths.
 - Example: *For instance, when I am applying the strength of Creativity in the classroom such as teaching children the growth cycle through a real experience, I feel **pride** that my students are becoming enthusiastic learners in science and find myself **absorbed** in wanting to teach my students more.*
 - Reinforce participants' observations that use of strengths often co-occurs with, and creates, positive feelings in the classroom, including personal feelings of happiness and positive experiences in students.
- Direct participants to complete the inventory of character strengths (Values in Action-Inventory of Strengths; VIA-IS) through an online survey provided at www.authentic happiness.org
- Guide the participants in how to login to the website to complete the measure and review the instruction for completing the questions provided online with the participant. Complete the following steps:
 - Once on the website, scroll down and click on the link VIA Strength Survey for Adults
 - Follow the online instructions for entering the survey
 - Go over the instructions for completing the questions provided online.
 - Allow the participant to complete the survey independently, while you read a book, complete paperwork, etc., but remain available to answer any questions.
 - Reveal the participant's 5 top signature strengths, as a preview for the discussion focus of the next session.
 - Schedule a time with the participant to meet the same or following day (or within 48 hours [excluding weekends and holidays]) for Session 2.

Appendix G: Strengths-Based Intervention Manual (continued)

Session 2 (Application of First Signature Strength):

- Prior to session, print two copies of the first page of VIA-IS feedback generated through authentichappiness.org . This page should list the individuals' top strengths.
- Provide individualized feedback regarding the participants top 5 'signature' strengths as indicated from the VIA-IS.
 - *Taking into consideration how you endorsed each of the 200+ statements, which allowed you to reflect on your tendency to possess aspects of each of the 24 strengths, the scoring software noted you endorsed most highly statements that were consistent with 5 particular strengths including: X, X, X, X, and X.*
 - Provide participant with a hard-copy print out of the first page of feedback generated online, which lists individuals' top strengths. Do not distribute the complete feedback that rank orders the 24 strengths, in order to preclude participants from focusing on last-ranked strengths (intervention goal is expanded use of top strengths, not remediation of others)
 - From the handout, read aloud the VIA developers' brief definitions of each strength
- Allow the participant to compare their top 5 strengths on the VIA-IS to their initial pre-generated list. Discuss similarities, differences, and any general reactions to the results. Prompt with the following questions:
 - *How are your signature strengths from the online survey the same or different from the strengths you anticipated before we went online?*
 - *How well do you feel the signature strengths identified in the online test fit you and your ideals?*
- Discuss with the participant that if he or she does not feel that one or more of the strengths on their list is not a good match, then he or she is able to cross it out.
- Ask the participant to discuss in what ways he or she has used the listed signature strength recently in any life domains (i.e., home, friends, community, work, etc.). Prompt with the following questions:
 - *Can you think of ways you have used your signature strengths recently?*
 - *Which of your signature strengths do you feel you use particularly often? How; in what ways?*
- Ask the participant to select one of his or her top five signature strengths to be utilized in new and different ways for one week.
- Discuss how the participant's ideas will be collected on a document entitled "New Uses of My First Signature Strength."
 - Work with the participant to develop ideas on how his or her selected signature strength can be utilized in new and different ways within the school setting; after a brainstorming period, you can utilize the pre-generated ideas from the "Connecting Character Strengths to the Classroom Teachers" handout.
- Discuss with the participant that you would like for him or her to track how his or her selected strength was used in new and different way at school, and what feelings he or she experienced during or after the new use of the applied strength. Provide the participant the option to document his or her daily strength(s) using either the

Appendix G: Strengths-Based Intervention Manual (continued)

“Connecting Character Strengths to the Classroom Teachers” handout *or* through journaling on the Qualtrics online survey. Demonstrate for the participant how he or she will track the selected signature strength through online journaling via Qualtrics, for example:

- What strength are you focusing on this week?: “Appreciation of beauty and excellence”
- How did you use that strength in a new way(s) at school today?: “By recognizing one of my student’s writings that described her personal hero. I read her work in front of the class and described how she used excellent descriptive work in her paper.”
- What feelings did you experience during or after that new use(s) of your strength?: “I felt pride in my student’s accomplishments, and gratitude for her effort during class; she smiled when recognized and later in the day asked if she could do an extra writing assignment. I saw the boy next to her ask her for help with his writing assignment”
- Photocopy the plan and return the original to the teacher; encourage him or her to add to the plan if additional ideas arise.
- Schedule session 3 for approximately one week later (i.e., at least 4 to 6 work days after the completion of session 2).

Appendix G: Strengths-Based Intervention Manual (continued)

Session 3 (Application of Second Signature Strength):

- Discuss with the participant his or her progress in the daily completion in using his or her signature strength in new and different ways; a secondary goal is to check in on management of data collection procedures including survey level data and journaling. Prompt with the following questions:
 - *When we met last week, we started to plan how you could use your strength of X in new ways at work. What has been your progress with that plan, in terms of your daily use of your selected signature strength in a new and different ways? What parts of your plan worked as intended?*
 - Praise effort and accomplishments in terms of progress enacting plan!
 - *What parts of the plan did not work? Have you faced any barriers (e.g., computer issues, lack of time, etc.) this past week that have limited you from completing the task on a daily basis?*
 - *Problem solve with the participant if he or she has faced any difficulties in completing intervention tasks; develop a plan of action for the upcoming week that will increase the odds of daily use of the second signature strength.
- Prompt the participant to discuss at least two examples of new ways he or she has used the chosen signature strength during the previous week and reflect on his or her feelings related to the use of the strength within the classroom context. Get out for reference a print-out of the participant's responses collected through the online survey during the previous week. Prompt with the following:
 - *Thanks for the broad overview of your progress with the plan. I'd like to hear more about some examples of how you used your signature strength in new ways during the previous week. Let's focus on two examples of how you used the signature strength within the classroom and/or school context. Tell me about one way, then another (gesture to online survey print-out).*
 - *How has using your signature strength in those ways impacted your performance in the classroom (e.g., teaching)? How has it affected your overall happiness?*
 - Praise effort and accomplishments in terms of positive outcomes that have flowed from purposeful increased use of one's strength!
- Ask the participant to select another of his or her top five signature strengths to be utilized in new and different ways for the next week.
 - *Thank you for sharing how you've been able to enhance your teaching and well-being through increased use of X strength. Now, we're going to turn our attention to a second strength of yours. Of these 4 left, which would you like to focus on this week?*
- Review how the participant's ideas will be collected on a document entitled "New Uses of My Second Signature Strength."
 - Work with the participant to develop ideas on how his or her selected signature strength can be utilized in a new and different ways within the school setting; after a brainstorming period, you can utilize the pre-generated ideas from the "Connecting Character Strengths to the Classroom Teachers" handout.

Appendix G: Strengths-Based Intervention Manual (continued)

- Review how the participant will track the selected signature strength through daily tracking on the “New Uses on My Second Signature Strength” document *or* through journaling online using Qualtrics
- Photocopy the plan and return the original to the teacher; encourage him or her to add to the plan if additional ideas arise
- Schedule session 4 for approximately one week later (i.e., at least 4 work days after the completion of session 3).

Appendix G: Strengths-Based Intervention Manual (continued)

Session 4 (Termination):

- Discuss with the participant his or her progress in the daily completion in using his or her second signature strength in a new and different way; a secondary goal is to check in on management of data collection procedures including survey level data and journaling. Prompt with the following questions:
 - *When we met last week, we started to plan how you could use your strength of X in new ways at work. What has been your progress with that plan, in terms of your daily use of your selected signature strength in a new and different way? What parts of your plan worked as intended?*
 - Praise effort and accomplishments in terms of progress enacting plan!
 - *What parts of the plan did not work? Have you faced any barriers (e.g., illness, lack of time, etc.) this past week that have limited you from completing the task of using a signature strength in a new and different ways on a daily basis?*
*Problem solve with the participant if he or she has faced any difficulties in completing intervention tasks; develop a plan of action for future applications that will increase the odds of daily use of additional strengths.
- Prompt the participant to discuss at least two examples of new ways he or she has used the chosen signature strength during the previous week and reflect on his or her feelings related to the use of the strength within the classroom context. Produce a print-out of their responses collected through the online survey during the previous week. Prompt with the following:
 - *Thanks for the broad overview of your progress with the plan. I'd like to hear more about some examples of how you used your signature strength in a new way during the previous week. Let's focus on two examples of how you used the signature strength within the classroom and/or school context. Tell me about one way, then another (refer to the online survey print-out or the participant's hand-written records of strength applications).*
 - *How has using your signature strength in those ways impacted your performance in the classroom (e.g., teaching)? How has it affected your overall happiness?*
 - Praise effort and accomplishments in terms of positive outcomes that have flowed from purposeful increased use of one's strength!
- Prompt the participant to discuss how he or she will continue to utilize his or her strengths in a new ways and maintain the use of strengths on a continuous basis. Prompt with the following questions:
 - *As you know, this is our last 1-on-1 meeting to plan together how you will use your strengths at school in new ways. But you've acquired (or are continuing to acquire) the skills for developing and carrying out plans for how to maximize your strengths in the classroom, and you've seen the benefits your strengths bring to others and yourself.*
 - *Which activities that you've done in the past 2 weeks do you plan to continue in the future? Why that particular activity (or activities)?*
 - Reinforce feasible plans that involve preferred new uses of one's strengths. This discussion capitalizes on *person-activity fit*, specifically

Appendix G: Strengths-Based Intervention Manual (continued)

that lasting improvements in well-being are most likely to stem from continued use of positive activities that are well-aligned with someone's personal preferences and activity enjoyment.

- (If barriers were present during the implementation process) *What barriers did you face when using your signature strengths in new ways? How might you be able to change or avoid these barriers in the future to increase the use of your strengths?*
- *How will you continue to use your signature strengths in the future? For instance, what strength(s) might you focus on next?*
 - After the strength is identified, provide a rationale for the importance of continuing to focus effort on strengths applications in the classroom. Following the rationale, you'll return to developing a plan for strengths application of the just-identified strength.
- Describe the set point of happiness and how people have the power to change where they focus time in their personal emotional range (i.e., lower versus upper ends). This discussion will highlight the importance of continuing to pursue the goals of putting into action purposeful activities to increase happiness and serve to support the participant in continuing to implement demonstrating his or her signature character strengths in new and different ways.
 - Before we plan further for how to apply that strength, allow me to share why its so important to *keep up your excellent efforts* to use your strengths in new ways.
 - Use the "What Determines Happiness?" graph (Lyubomirsky et al., 2005) to guide the teachers in the following discussion:
 - *Researchers have studied why people's happiness levels change, and why some people are happier than others. These studies have shown that happiness is influenced by three categories, including a genetic set point, purposeful and intentional activities, as well as life circumstances. (gesture to "What Determines Happiness" graph) For each person, the largest determinant of happiness is the genetic set point which is constant, stable, and controlled by biological factors. This means that our baseline level of happiness is controlled by what we're born with and can look different for each individual. For example, some people tend to naturally demonstrate higher levels of happiness and seem a lot happier than most. Other people have a lower set point in happiness, and may not often seem happy. Let's pretend that happiness ranges from a scale of 1-7 that we see here on this ruler (reference ruler on "What Determines Happiness" handout). Some people's range in happiness is naturally high and their range could be 5-7. On the other hand, some people may demonstrate a much lower range such as 0-2. Overall, a person typically has a set range in their genetic set point of happiness and these biological factors make up approximately 50% of our personal happiness. Thankfully genetics is not the only piece of the happiness equation. Changes in life circumstances, and purposeful activities and ways of thinking can also contribute in*

Appendix G: Strengths-Based Intervention Manual (continued)

moving our personal level of happiness within our set range. Life circumstances include the incidental but often stable facts of life that one must face on a daily basis. These circumstances can include what part of the world you live in and other demographic factors including age, occupational status, the amount of money you make, and current health to name a few. These factors we can often not change as easily as we may like; however, such life circumstances only account for about 10% of an individual's happiness. The other 40% of our happiness level is much more flexible to change and includes various intentional activities that we may choose to implement within our daily life. These purposeful activities include what you choose to do or think, your personal attitudes, and the specific goals you establish. As you may already be thinking to yourself, these are the same activities that you have been performing within the past weeks at school and within the classroom. These intentional activities- in particular, your active choice to cultivate your strengths, offer the best and most lasting potential to maximize your happiness level especially within your work within the classroom and the school at large.

- Also emphasize the understanding of the *hedonic treadmill* (Brickman & Campbell, 1971) which states that the happiness gained through the implementation of intentional activities is only temporary and that such activities must be continued in order for higher levels of happiness to be maintained:
 - *You have been working hard towards performing such activities often by implementing your signature character strengths in new and different ways. We both want you to retain the benefits of those positive activities! The work you put into improving your overall happiness especially in your classroom and at school is never complete. The happiness that you gain through positive activities is only temporary if you choose not to continue such positive activities in the future. Scientists have found that our happiness levels quickly adapt and shift back to the lower bound of our genetic set point if intentional positive activities are not maintained over time. This is similar to weight loss- if you work hard to get to your goal weight and then stop the eating or exercise habits that got you there, the weight creeps back on. In order to continue the upward spiral of your happiness in your work at school, and build your skills in generating and implementing plans to use your strengths in the classroom, we're going to focus on coming up with a few ideas for how you can continue to implement your other signature strengths within the coming weeks. (Point to textbox with quote on the "What Determines Happiness" handout) This quote will help to remind you of the importance of implementing these purposeful activities each and every day. I would recommend posting it somewhere in your classroom so it can serve as a reminder.*
- Ask the participant to select up to three of his or her top five signature strengths (preferably those strengths not yet focused on in Session 2 or Session 3 activities) to be utilized in new and different ways for the upcoming weeks. During this discussion,

Appendix G: Strengths-Based Intervention Manual (continued)

collect and record the participant's ideas on the "New Uses of My Signature Strengths" handout. Work with the participant to develop and brainstorm ideas on how his or her selected signature strength(s) can be utilized in new and different ways within the school setting. Help make these ideas as concrete as possible (i.e., plans of action) by identifying weeks the participants could focus on a given strength.

- Reinforce feasible ideas that the participant generates that involve new uses of his or her strengths.
- As needed, refer to pre-generated ideas from the "Connecting Character Strengths to the Classroom Teachers" handout.
- Present the participant with a certificate of completion that accounts for his or her participation in the intervention.
- Direct the participant to complete a treatment acceptability form discussing with the participant that the measure will allow the participant to provide his or her perspective of the intervention in terms of the overall feasibility and adequacy of the intervention's tasks within the school context.
- Administer post-intervention packet of measures

Appendix G: Strengths-Based Intervention Manual (continued)

Date: _____

Leader: _____

Participant # _____

Teacher Strengths-Based Intervention
 Treatment Integrity Check
 Session #1

	Session Activity	Completed?	
		Yes	No
1.	Define character strengths in line with Park, Peterson, and Seligman’s (2004) conceptualization		
2.	Share “Classification of 24 Character Strengths” sheet		
3.	Connect character strengths to behaviors and feelings in the classroom context		
4.	Review and discuss each character strength, and specific categorization in terms of relevant virtue		
5.	Develop a list of ideas as to what the participant thinks in his/her top 5 character strengths, using handout “Connecting Character Strengths to Positive Experiences”		
6.	Discuss why the participant selected at least 2 character strengths to best describe his or her strong qualities		
7.	Discuss how using character strengths may relate to positive experiences (e.g., co-occurring feelings of happiness), using handout “Connecting Character Strengths to Positive Experiences”		
8.	Complete inventory of character strengths online (Values in Action; VIA-IS)		
9.	Reveal the participant’s 5 top signature strengths as a preview to the next session		
10.	Schedule a time to meet within the next two school days to complete Session 2 (indicate “yes” if Session 2 had been scheduled previously to immediately follow Session 1)		

Time session started: _____ ended: _____

Feel rushed? _____ Which parts? _____

Appendix G: Strengths-Based Intervention Manual (continued)

Participant comments or reactions? General observations on session acceptability?

Suggestions for improvement/change?

Appendix G: Strengths-Based Intervention Manual (continued)

Date: _____

Leader: _____

Participant # _____

Teacher Strengths-Based Intervention
 Treatment Integrity Check
Session #2

	Session Activity	Completed?	
		Yes	No
1.	Review the participant’s individualized feedback from the VIA-IS	Yes	No
2.	Discuss/define the participant’s top five “signature” strengths	Yes	No
3.	Compare the participant’s top 5 strengths generated by the VIA-IS to the participant’s initial list	Yes	No
4.	When applicable, eliminate a signature strength(s) the participant feels does not accurately represent him/her (circle “yes” if not applicable because the participant agrees the strengths identified online fits him/her)	Yes	No
5.	Discuss how the participant uses signature strengths in various life domains (i.e., home, fiends, community, work, etc.)	Yes	No
6.	Participant selects one of his/her top five signature strengths to use in a new and different way for one week	Yes	No
7.	Generate ideas in how to use the selected signature strength in a new and different way within the school setting	Yes	No
8.	Collect ideas on a document entitled “New Uses of My First Signature Strength”	Yes	No
9.	Direct participant to use the selected signature strength in new and different ways within the school context every day for one week (i.e., 5 work days)	Yes	No
10.	Demonstrate procedures for daily collection of journaling of uses of his/her signature strength using either (a) “New Uses of My First Signature Strength” handout, or (b) online through strengths applications questions embedded in every-other-day survey data collection	Yes	No

Appendix G: Strengths-Based Intervention Manual (continued)

11.	Encourage the participant to add to the plan if additional ideas arise throughout the week	Yes	No
12.	Copy the record form; leave one copy of plan with participant to reference when using signature strength in new and different ways during week	Yes	No
13.	Schedule a time to meet approximately one week later to complete Session 3	Yes	No

Time session started: _____ ended: _____

Feel rushed? _____ Which parts? _____

Participant comments or reactions? General observations on session acceptability?

Suggestions for improvement/change?

Appendix G: Strengths-Based Intervention Manual (continued)

Date: _____

Leader: _____

Participant # _____

Teacher Strengths-Based Intervention
 Treatment Integrity Check
Session #3

	Session Activity	Completed?	
1.	Review participant’s progress in the daily completion in using his/her signature strength in new and different ways	Yes	No
2.	Check in on management of data collection procedures including survey level data and journaling	Yes	No
3.	Discuss at least two examples of new ways the participant used the chosen signature strength during the previous week	Yes	No
4.	Discuss how use of strengths in these ways impacted personal well-being or the classroom climate	Yes	No
5.	Discuss with the participant any difficulties that made it hard to use his/her strength	Yes	No
6.	Prompt the participant to select another signature strength to work on within the second work week (i.e., 5 work days)	Yes	No
7.	Generate ideas in how to use the selected signature strength in a new and different way within the school setting	Yes	No
8.	Record ideas for how to use the strength in a new and different ways on the record form “New Uses of My Second Signature Strength”	Yes	No
9.	Discuss with the participant any additional support that he/she needs in order to overcome barriers in completing the daily intervention tasks	Yes	No
10.	Review procedures for daily collection of journaling of uses of his/her signature strength using either (a) “New Uses of My First Signature Strength” handout, or (b) online through strengths applications questions embedded in every-other-day survey data collection	Yes	No
11.	Copy the record form; leave one copy of plan with participant to reference when using the second strength in new and different ways during week	Yes	No
12.	Schedule a time to meet approximately one week later to complete Session 4	Yes	No

Appendix G: Strengths-Based Intervention Manual (continued)

Time session started: _____ ended: _____

Feel rushed? _____ Which parts? _____

Participant comments or reactions? General observations on session acceptability?

Suggestions for improvement/change?

Appendix G: Strengths-Based Intervention Manual (continued)

Date: _____

Leader: _____

Participant # _____

Teacher Strengths-Based Intervention
Treatment Integrity Check
Session #4

	Session Activity	Completed?	
		Yes	No
1.	Review the participant’s progress in completing the second week intervention tasks in using his/her signature strength		
2.	Check in on management of data collection procedures including survey level data and journaling		
3.	Discuss at least two examples of new ways the participant used the chosen signature strength during the previous week		
4.	Discuss how use of strengths in these ways impacted personal well-being or the classroom climate		
5.	Discuss how participant can maintain the use of strengths, for instance by <u>continuing with some of the applications</u> that were initiated over the past two weeks		
6.	Use the “What Determines Happiness Graph” to discuss the set point of happiness and how people have the power to change their level of personal happiness through planned, purposeful activities		
7.	Discuss the concept of hedonic adaptation, with the implication that the participant must continue positive activities in order to maintain gains in well-being		
8.	Create a plan for how participant will independently utilize his/her strengths in new ways in the coming weeks using the “Using Signature Strengths in New Ways” handout		
9.	Present participant with certificate of completion of the strengths-based intervention		
10.	Administer a treatment acceptability form to acquire participant’s perspective of the intervention (i.e., feasibility, adequacy)		
11.	Administer post-intervention packet of measures		

Time session started: _____ ended: _____

Feel rushed? _____ Which parts? _____

Appendix G: Strengths-Based Intervention Manual (continued)

Participant comments or reactions? General observations on session acceptability?

Suggestions for improvement/change?

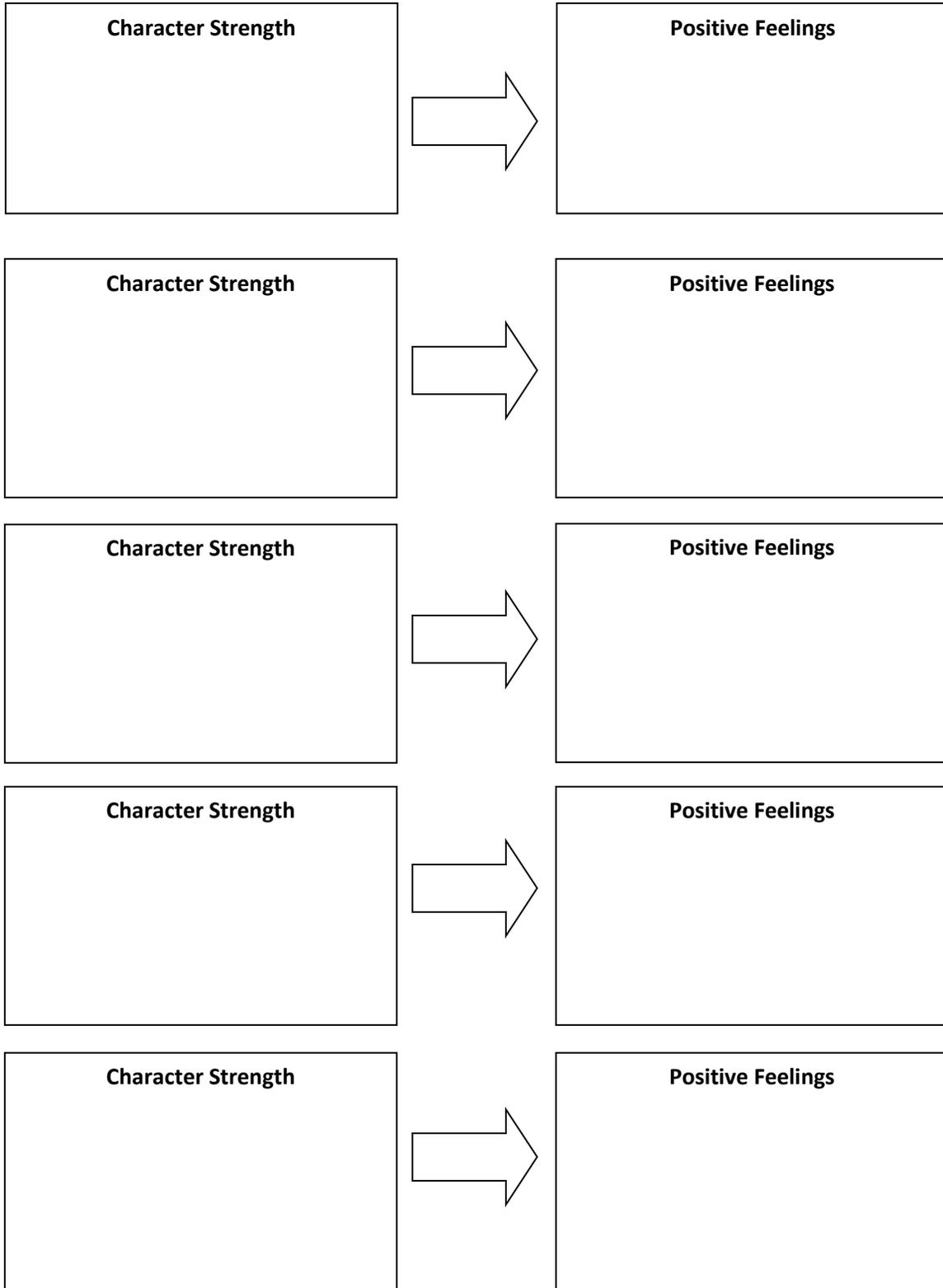
Appendix G: Strengths-Based Intervention Manual (continued)

Classification of 24 Character Strengths

1. **Wisdom and knowledge**—cognitive strengths that entail the acquisition & use of knowledge
 - Creativity*: Producing original ideas that make a positive contribution to self or others
 - Curiosity*: Having openness and interest to a novel experience
 - Open-mindedness*: Willingness to think about ideas from all perspectives
 - Love of learning*: Cognitively engaged in mastering new bodies of knowledge
 - Perspective*: Ability to impart wisdom and counsel to others
2. **Courage**—emotional strengths that involve the exercise of will to accomplish goals in the face of opposition both externally and internally
 - Bravery*: Readiness to face a challenge or fear with willingness to stand up for what is morally valued
 - Persistence*: Persevering through a task even when faced with difficult obstacles
 - Authenticity*: Relaying honesty, genuineness of character, and responsibility for actions
 - Zest*: Displaying enthusiasm and vigor for any and all of life’s activities
3. **Humanity**—interpersonal strengths that involve tending and befriending others
 - Love*: Cognitive, behavioral, and emotional attitude of care and affection that is displayed through a variety of relationships
 - Kindness*: Demonstrating generosity and care towards others
 - Social intelligence*: Having an acute awareness of others’ feelings and motives
4. **Justice**—civic strengths that underlie healthy community life
 - Citizenship/teamwork*: Exhibiting loyalty and working well within a team
 - Fairness*: Treating others with same level of respect and removing all biases
 - Leadership*: Actively guiding and encouraging others based on a common cause
5. **Temperance**—strengths that protect against excess
 - Forgiveness/mercy*: Displaying forgiveness and amnesty towards others
 - Modesty/humility*: Having an accurate awareness of one’s abilities and allowing your accomplishments to speak for themselves
 - Prudence*: Having practical reasoning and self-management skills
 - Self-control/self-regulation*: Exhibiting self-discipline and being able to manage your actions and behaviors
6. **Transcendence**—strengths that forge connections to the larger universe & provide meaning
 - Appreciation of beauty and excellence*: Ability to recognize and take pleasure in the existence of beauty in all domains of life
 - Gratitude*: Having a sense of thankfulness and appreciation for life’s good happenings
 - Hope*: Displaying optimistic expectations for the future
 - Humor*: Exhibiting a cheerful and playful view of the world that brings smiles and laughter to others
 - Spirituality*: Acknowledging a transcendent dimension of life that is pervasive and stable and gives higher purpose and meaning to one’s actions

Appendix G: Strengths-Based Intervention Manual (continued)

Connecting Character Strengths to Positive Experiences



Appendix G: Strengths-Based Intervention Manual (continued)

New Uses of My First Signature Strength

Signature Strength:		
Day of the Week	New Use	Feelings During or Following New Use

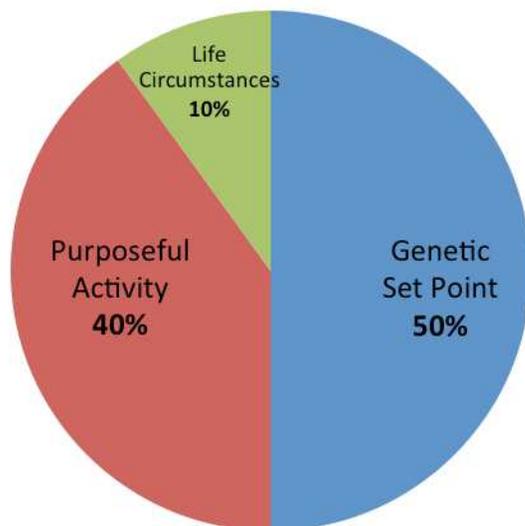
Appendix G: Strengths-Based Intervention Manual (continued)

New Uses of Second Signature Strength

Signature Strength:		
Day of the Week	New Use	Feelings During or Following New Use

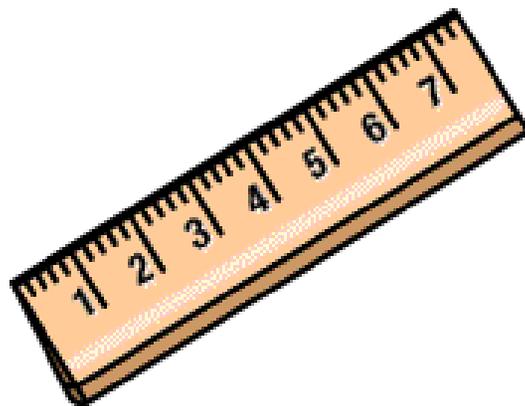
Appendix G: Strengths-Based Intervention Manual (continued)

What Determines Happiness



Experiencing greater happiness, including in your classroom, is largely within your personal control.

Lasting happiness requires the continued use of purposeful actions and thoughts that you set out to accomplish on a daily basis.



Appendix G: Strengths-Based Intervention Manual (continued)

New Uses of My Signature Strengths

Signature Strength: _____ Week of: _____	Signature Strength: _____ Week of: _____	Signature Strength: _____ Week of: _____



Certificate of Completion

This certificate is awarded to:

in recognition of completing the “Using Signature Strengths in a New Way” intervention

_____ Signature	_____ Date
_____ Signature	_____ Date



Appendix G: Strengths-Based Intervention Manual (continued)

Connecting Character Strengths to the Classroom

Strength	Definition	Examples
Wisdom and knowledge — <i>cognitive strengths that entail the acquisition and use of knowledge</i>		
Creativity	Producing original ideas that make a positive contribution to self or others	<ul style="list-style-type: none"> • Design a creative, novel lesson plan focusing on a subject of choice • Redesign your or a peer’s classroom layout or specific section of a classroom (e.g., reading corner)
Curiosity	Having openness and interest to a novel experience	<ul style="list-style-type: none"> • Take over a new position of leadership (e.g., grade-level chair) or organization within the school environment (e.g., literacy group, PTA) • Talk with a fellow educator about a challenge or skill that you want to obtain in order to gain their expertise of such knowledge and skills • Attend a professional development course that builds your knowledge base on a specific education topic (e.g., early childhood behavior management strategies)
Open-mindedness	Willingness to think about ideas from all perspectives	<ul style="list-style-type: none"> • Work with a peer or supervisor to help evaluate a specific component of your classroom teaching and ask for them to critically appraise at least three significant components • Mentor a fellow teacher peer who is new to the profession or is seeking additional support • Identify a challenge currently perceived within the classroom environment (e.g., behavior management, struggling math scores, lack of student engagement) and think deeply about how to improve current challenge(s) with established goals
Love of learning	Cognitively engaged in mastering new bodies of knowledge	<ul style="list-style-type: none"> • Read and research a new education topic of interest (e.g., Daily 5, Math Talk, etc.) and write a list of ideas in how to input such ideas into your classroom • Gather new ideas from a website or social media resource, like Pinterest, and develop in the classroom • Put together a teach-learn session with a fellow educator – learn a new skill and teach your peer while they so the same • Attend a teacher workshop session provided by the school and/or county
Perspective	Ability to impart wisdom and counsel to others	<ul style="list-style-type: none"> • Offer productive advice for a teacher peer when asked • Provide separate mentorship for a selected child within the classroom who needs additional guidance • Read inspirational quotes, and consider how such quotes make an impact on you as an

		<p>educator working with students</p> <ul style="list-style-type: none"> • Write 2 or 3 major goals that you have as you think about the outlook of your future in education and what you hope to accomplish in a year's or few year's time
<p>Courage—<i>emotional strengths that involve the exercise of will to accomplish goals in the face of opposition, both external and internal</i></p>		
Bravery	Readiness to face a challenge or fear with willingness to stand up for what is morally valued	<ul style="list-style-type: none"> • Join and participate in an activist association that advocates for student or teacher's behalf (e.g., National Autism Association) • Work with a student to help them face a tough personal academic or social challenge (e.g., math concepts, writing stamina, etc.) • Share a story of bravery to your students on a daily basis
Persistence	Persevering through a task even when faced with difficult obstacles	<ul style="list-style-type: none"> • Write two to three goals that you have to achieve within the upcoming week within the classroom. Break down each goal into specific steps and monitor your progress daily • Read an inspirational quote or poem that provides motivation for what you want to achieve • Talk with a work peer or significant family member about specific work related goals and have them provide you advise in how to achieve such goals
Authenticity	Relaying honesty, genuineness of character, and responsibility for actions	<ul style="list-style-type: none"> • Find the specific ethical standards and practices of the teaching profession and determine how you will apply two to three standards in your teaching practice • Journal about a moral dilemma or obligation that a teacher can possibly face in the classroom and the ethical practice that a teacher should abide to • Express one positive and genuine characteristic about each of your students through various means (e.g., verbally as they walk in or out the door, through a post-it note, graded assignment)
Zest	Displaying enthusiasm and vigor for any and all of life's activities	<ul style="list-style-type: none"> • Perform a physical activity (both you and your students) of your choice • Think of an activity that you typically find uninteresting and/or tedious in the classroom and think of a way to make it more exciting and apply it • Sing with your students popular songs or songs that apply to the classroom • Take time to write about one or two major accomplishments and/or victories achieved and find a way to celebrate (e.g., give you're a sugar treat, call a friend or family member, reward yourself with money)
<p>Humanity—<i>interpersonal strengths that involve tending and befriending others</i></p>		
Love	Cognitive, behavioral, and emotional attitude of care and affection that is	<ul style="list-style-type: none"> • Express your care and affection for you students by writing a personal note to each of them or openly telling them your love and care for them

	displayed through a variety of relationships	<ul style="list-style-type: none"> • Express your love to your students by writing them a creative means such as a poem, story, or small gifts • Show your colleagues that you care for them by writing them individual notes, presenting each a small gift, or helping them with a various task
Kindness	Demonstrating generosity and care towards others	<ul style="list-style-type: none"> • Demonstrate an act of kindness towards your colleagues (e.g., helping them sort their classroom library, finishing up their weekly lesson plans, organizing their supplies) • Donate your supplies, books, and/or classroom items that you do not use anymore to a fellow teacher or child who would be able to use them • Greet your colleagues and/or students with a smile • Make a note of saying one kind comment to each one of your students
Social intelligence	Having an acute awareness of others' feelings and motives	<ul style="list-style-type: none"> • If a child or colleague offends you or makes you angry, focus on at least one positive factor in their intentions • Notice when a student(s) in your class makes personal growth (e.g., selecting more appropriate peers to associate with, spending more time on homework) and congratulate them on their accomplishment • Listen to your students and/or colleagues empathetically and reflect on your own feelings through journaling
Justice — <i>civic strengths that underlie healthy community life</i>		
Citizenship/ Teamwork	Exhibiting loyalty and working well within a team	<ul style="list-style-type: none"> • Have you and your students join in a service learning project to provide support to others in the community (e.g., support another classroom, clean up litter around the school grounds, recycling project) • Perform a teambuilding activity with the students that reinforces communication and camaraderie among the children • Utilize collaborative grouping within the classroom for students to complete certain assignments and/or academic tasks
Fairness	Treating others with same level of respect and removing all biases	<ul style="list-style-type: none"> • Encourage equal participation of every student in your classroom or colleague during team meetings. Utilize various methods such as pulling out names from a jar • Spend time reflecting about times when you may have been unfair or could have been fairer and consider ways that you would improve your behavior in the future • Self-monitor your behavior to see if you treat other students and/or colleagues with fairness or removed biases • Guide the students in participating in a service learning project that focuses on social

		<p>justice and supporting others who may not be provided a level playing field</p> <ul style="list-style-type: none"> • Read a biography on a famous person who exemplified social justice (e.g., Gandhi, Martin Luther King, Nelson Mandela)
Leadership	Actively guiding and encouraging others based on a common cause	<ul style="list-style-type: none"> • Organize an event at your school that involves supporting your colleagues (e.g., professional development class, teacher celebration) • Gather your students and lead a clean-up of a local park or school • List and reflect on possible ways that you can improve your leadership style within the classroom or school at large and act on one of those ideas • Read a biography and/or watch a film on a famous past or current education leader and evaluate how he or she inspires you within the classroom context (e.g., watch the movie <i>TEACH</i>, read about Lisa Delpit, Albert Einstein, Jaime Escalante’s impact in the classroom)
Temperance—strengths that protect against excess		
Forgiveness/ Mercy	Displaying forgiveness and amnesty towards others	<ul style="list-style-type: none"> • Plan out a personal response the next time a student and/or colleague offends you. Make sure to remind yourself of your plan and rehearse it intermittently • Identify a student or colleague in which you hold a grudge and reflect on what specific emotions are created when you think of this person (e.g., anger, sadness, anxiety, etc.). Think about how such emotions impact your behavior towards that person and/or other individuals such as students or fellow teacher peers • Self monitor your personal emotions and/or behavior when someone offends you and reflect on such feelings and actions within a journal
Modesty/ Humility	Having an accurate awareness of one’s abilities and allowing your accomplishments to speak for themselves	<ul style="list-style-type: none"> • Meet with a fellow colleague and/or administrator to discuss and review your techniques and practices within the classroom. Discuss areas that you are successful in and areas in which to improve. Develop a plan of action of how you will work on one area to improve • Compliment another colleague who you feel demonstrates a quality action or skill in the classroom that you would like to emulate and ask to observe his or her within the classroom • Work with students in the classroom to converse and use environmental resources in the classroom modestly (e.g., use recycled products, limit the use of light in the classroom, use paper sparingly)
Prudence	Having practical reasoning	<ul style="list-style-type: none"> • Before conducting a student or parent meeting (e.g., behavior incident, academic perform-

	and self-management skills	<p>ance, etc.), write down what you are going to say and think about its possible impacts</p> <ul style="list-style-type: none"> • Remove win-loss activities in the classroom and implement more cooperative learning scenarios. Reflect on how such activities impact your students' behaviors and interactions • Develop a long-term goal for the end of the school year, and write out up to five smaller goals that will lead you to reaching your ultimate end of the year accomplishment
Self-control/ Self-regulation	Exhibiting self-discipline and being able to manage your actions and behaviors	<ul style="list-style-type: none"> • Establish goals that will allow you to work more efficiently in the classroom (e.g., complete one day of lesson plans each day, clean up your work area, grade a set of papers daily) • Self monitor distractions and work on eliminating such distractions within the classroom (e.g., colleagues who to chat at the end of the day) • Practice relaxation techniques (e.g., deep-breathing, counting to 10, mindfulness training) in order to control your emotions and to help you focus on others' positive character strengths
Transcendence — <i>strengths that forge connections to the larger universe and provide meaning</i>		
Appreciation of beauty and excellence	Ability to recognize and take pleasure in the existence of beauty in all domains of life	<ul style="list-style-type: none"> • Appreciate a student(s)' work of art and or piece of writing and display it in your classroom for others to value • Decorate the inside or outside of your classroom with beautiful expressions of art • Select pieces of art that you consider aesthetically pleasing and have your students complete the same assignment • Take pictures along with your students of natural scenes of beauty and discuss the pictures as a whole group • Journal about the goodness of other students' or colleagues' actions and how such actions impact your life
Gratitude	Having a sense of thankfulness and appreciation for life's good happenings	<ul style="list-style-type: none"> • Think about and write down three blessings (good things that happened to you) within the classroom and/or school context before going to bed • Express your appreciation by leaving a note for a student or colleague who has helped you to grow as an educator • Focus on providing more of a description of why you are thankful rather than just saying "thanks." • Think about one small important thing that you normally take for granted and focus on being more mindful of this within the future
Hope	Displaying optimistic expectations for the future	<ul style="list-style-type: none"> • List all the negative experiences you had within the work day and then write at least two

		<p>positive experiences for each of the negative experiences</p> <ul style="list-style-type: none"> • Write about three accomplishments you had within the classroom and/or school • Write a list of students and/or colleagues who are optimistic and future-minded individuals. Spend at least 5 minutes talking with that individual • Read about another individual who succeeded within the classroom context despite personal difficulties (e.g., Albert Einstein, Oprah Winfrey, Nelson Mandela)
Humor	Exhibiting a cheerful and playful view of the world that brings smiles and laughter to others	<ul style="list-style-type: none"> • Spend 5 minutes telling a jokes or a humorous story to students • Read a children’s book or young adult novel that includes a significant amount of humor (e.g., Roald Dahl, Dr. Seuss) • Write down at least 3 times that you smile or laugh within the classroom or school context and the reason that made you smile or laugh
Spirituality	Acknowledging a transcendent dimension of life that is pervasive and stable and gives higher purpose and meaning to one’s actions	<ul style="list-style-type: none"> • Allot at least ten minutes a day for meditation that include deep breathing, relaxing, and focusing on positive thoughts • Reflect on how your spiritual beliefs impact your actions within the classroom and school context • Focus on prayer or spiritual worship for at least five to ten minutes daily before or after school

Reference:

Rashid, T. & Anjum, A. (2014). *340 Ways to Use VIA Character Strengths*. Retrieved from <http://www.viacharacter.org/resources/ways-to-use-via-character-strengths/>

Appendix G: Strengths-Based Intervention Manual (continued)

Treatment Acceptability Form (Adapted from IRT-15)

Directions: Please rate the intervention along the following dimensions. Please circle the number which best describes your agreement or disagreement with each statement.

	Strongly Disagree	Disagree	Disagree Slightly	Slightly Agree	Agree	Strongly Agree
1. This would be an acceptable intervention for improving teacher’s happiness.	1	2	3	4	5	6
2. Most teachers would find this intervention appropriate to use in the school environment.	1	2	3	4	5	6
3. This intervention proves effective in positively impacting teacher’s happiness.	1	2	3	4	5	6
4. I would suggest this intervention to other teachers.	1	2	3	4	5	6
5. Most teachers would find this intervention suitable for improving teachers’ overall well-being.	1	2	3	4	5	6
6. I would be willing to use this intervention in the classroom setting.	1	2	3	4	5	6
7. This intervention would not result in negative side-effects for the teacher.	1	2	3	4	5	6
8. This intervention would be appropriate for a variety of teachers.	1	2	3	4	5	6
9. I liked the procedures used in this intervention.	1	2	3	4	5	6
10. This intervention was a good way to support the improvement of my overall happiness.	1	2	3	4	5	6
11. I will continue to use activities I learned in my meetings on my own.	1	2	3	4	5	6
12. Overall, this intervention would be beneficial for a teacher.	1	2	3	4	5	6

Appendix G: Strengths-Based Intervention Manual (continued)

13. What do you feel are some of the most important things you learned in the intervention?

14. What did you like best about the intervention?

15. What did you like least about the intervention?

16. What suggestions do you have to improve the intervention?

17. Any additional comments?

Appendix H: Demographics Questionnaire

Demographics Form

Participant ID # _____

Birth date _____ - _____ - _____
(month) (day) (year)

PLEASE ANSWER THE FOLLOWING QUESTIONS:

Please note that some questions may ask you to fill in an answer or circle the best answer that represents you.

1. Age: _____
2. Gender: Male Female
3. How many years have you been teaching? _____
4. Which is the most advanced degree in which you have obtained?

 Bachelors Masters Doctorate
5. What grade(s) do you presently teacher? _____, _____, _____
6. On average, how many students do you teach each day? _____
7. Are you primarily a special education teacher? Yes No
8. Are you of Hispanic, Latino, or Spanish origin?
 - a. No, not of Hispanic, Latino, or Spanish origin
 - b. Yes, Mexican American, Chicano
 - c. Yes, Puerto Rican
 - d. Yes, Cuban
 - e. Yes, another Hispanic, Latino, or Spanish origin (please specify): _____
9. My race/ethnic identity is (Circle all that apply):
 - a. White
 - b. Black or African American
 - c. Asian
 - d. American Indian/Alaska Native
 - e. Native Hawaiian or Other Pacific Islander
 - f. Other (please specify): _____

Appendix I: VIA-IS Sample Online Adult-Form

VIA Survey of Character Strengths

VIAsurvey

Please choose one option in response to each statement. All of the questions reflect statements that many people would find desirable, but we want you to answer only in terms of whether the statement describes what you are like.
Please be honest and accurate!
We can not rank your strengths until you answer all of the 240 questions.

All questions must be completed for this questionnaire to be scored.

1. I find the world a very interesting place.

- Very Much Like Me
- Like Me
- Neutral
- Unlike Me
- Very Much Unlike Me

2. I always go out of my way to attend educational events.

- Very Much Like Me
- Like Me
- Neutral
- Unlike Me
- Very Much Unlike Me

3. I always identify the reasons for my actions.

- Very Much Like Me
- Like Me
- Neutral
- Unlike Me
- Very Much Unlike Me

VIA Survey of Character Strengths

VIAsurvey

Please choose one option in response to each statement. All of the questions reflect statements that many people would find desirable, but we want you to answer only in terms of whether the statement describes what you are like.
Please be honest and accurate!
We can not rank your strengths until you answer all of the 240 questions.

All questions must be completed for this questionnaire to be scored.

7. I have taken frequent stands in the face of strong opposition.

- Very Much Like Me
- Like Me
- Neutral
- Unlike Me
- Very Much Unlike Me

8. I never quit a task before it is done.

- Very Much Like Me
- Like Me
- Neutral
- Unlike Me
- Very Much Unlike Me

9. I always keep my promises.

- Very Much Like Me
- Like Me
- Neutral
- Unlike Me
- Very Much Unlike Me

10. I am never too busy to help a friend.

- Very Much Like Me
- Like Me
- Neutral
- Unlike Me
- Very Much Unlike Me

Appendix J: Permission to Use SWLS

The screenshot shows a web browser window with the URL `internal.psychology.illinois.edu/~ediener/SWLS.html`. The page header identifies the author as **Ed Diener**, Joseph R. Smiley Distinguished Professor Emeritus of Psychology and Senior Scientist for the Gallup Organization. A navigation menu includes Home, Contacts & Links, Ed Diener & Lab, RESEARCH, SCALES, and Inquiries. A search bar is present with the text "FIND STUFF" and a "Search" button. The main content area is titled "Satisfaction With Life Scale (SWLS)" and contains the following sections:

- Scales**: A list of scales including Overview, Satisfaction with Life Scale (SWLS), Scale of Positive and Negative Experience (SPANE), Flourishing Scale (FS), Scales for Children and Teenagers, Affect Intensity Measure, and Inventory of thriving (CIT & BIT).
- SWLS Translations**: A list of translations for Arabic, Arabic2, and Chinese.
- Permission to Use**: A section stating that the scale is copyrighted but can be used without permission or charge by professionals (researchers and practitioners) as long as credit is given to the authors (Ed Diener, Robert A. Emmons, Randy J. Larsen, and Sharon Griffin) as noted in a 1985 article in the *Journal of Personality Assessment*.
- About SWLS**: A section explaining that the SWLS is a short 5-item instrument designed to measure global cognitive judgments of satisfaction with one's life, typically taking about one minute to complete. It includes links to [SWLS_English.doc](#) and [Understanding the SWLS scores \(.pdf\)](#).

The browser's taskbar at the bottom shows the time as 4:53 PM on 8/5/2014 and includes icons for various applications like MyUSF, Pages - USF, VIA Research, University of..., Pandora, (14836 unreal), SWLS - Ed Di..., and system icons for network, volume, and power.

Appendix K: Satisfaction with Life Scale (SWLS)

SWLS

Below are five statements that you may agree or disagree with. Using the 1-7 scale below, indicate your agreement with each item by circling the appropriate number that corresponds to your feeling. For each statement, circle a number from (1) to (7) where (1) indicates you **strongly disagree** with the statement and (7) indicates you **strongly agree** with the statement.

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree
1. In most ways my life is close to my ideal.	1	2	3	4	5	6	7
2. The conditions of my life are excellent.	1	2	3	4	5	6	7
3. I am satisfied with my life.	1	2	3	4	5	6	7
4. So far I have gotten the important things I want in life.	1	2	3	4	5	6	7
5. If I could live my life over, I would change almost nothing.	1	2	3	4	5	6	7

Appendix L: Permission to Amend SWLS



Mollie McCullough <mmccullough@mail.usf.edu>

Question regarding Work-Related Life Satisfaction

Mollie McCullough <mmccullough@mail.usf.edu>
To: edieneer@illinois.edu

Tue, Nov 11, 2014 at 11:49 AM

Hi Dr. Diener,

I am a School Psychology graduate student at the University of South Florida with an immense interest in subjective well-being and positive psychology interventions as they relate to the classroom and school context. I am currently working on my thesis research focusing on implementing a strengths-based positive psychology intervention with elementary teachers to evaluate the interventions impact on SWB and other secondary indicators. I have been reviewing the literature to determine what various measures exist for satisfaction based on work-related well-being and/or satisfaction. As I have seen, there is much research related to job satisfaction that only uses one to two question indicators which I am trying to avoid. As I have read through your research and theoretical perspective, you note that life satisfaction can be measured through different domains. I would like to utilize the Satisfaction with Life Scale (SWLS) to evaluate the participants' global life satisfaction score; however, I wanted to ask if you feel that the SWLS can be adapted to also measure satisfaction as it relates to the individual's job/work? Thank you for your guidance!

Best,

Mollie McCullough, M.A.
School Psychology Doctoral Student
Department of Educational & Psychological Studies
University of South Florida: College of Education
mmccullough@mail.usf.edu, (863) 944-3029



Mollie McCullough <mmccullough@mail.usf.edu>

Question regarding Work-Related Life Satisfaction

ediener@cyrus.psych.illinois.edu <ediener@cyrus.psych.illinois.edu>
To: Mollie McCullough <mmccullough@mail.usf.edu>

Tue, Nov 11, 2014 at 12:14 PM

yes, you can do that. just rephrasing the items
others have done this in the past, although I cannot recall their names
they have done if for health, relationships etc. too

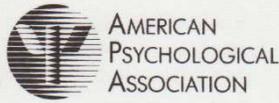
Appendix M: Satisfaction with Life Scale (Work Domain)

SWLS - WD

Below are five statements that you may agree or disagree with. Using the 1-7 scale below, indicate your agreement with each item by circling the appropriate number that corresponds to your feeling. For each statement, circle a number from (1) to (7) where (1) indicates you **strongly disagree** with the statement and (7) indicates you **strongly agree** with the statement.

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree
1. In most ways my <u>job</u> is close to my ideal.	1	2	3	4	5	6	7
2. The conditions of my <u>work/job</u> are excellent.	1	2	3	4	5	6	7
3. I am satisfied with my <u>job</u> .	1	2	3	4	5	6	7
4. So far I have gotten the important things I want in <u>work/job</u> .	1	2	3	4	5	6	7
5. If I could live my life over, I would change almost nothing about my <u>job</u> .	1	2	3	4	5	6	7

Appendix N: Permission to Use PANAS



Mollie McCullough
University of South Florida
Education and Psychological Studies
4202 East Fowler Avenue, EDU 105
Tampa, FL 33620

INVOICE NO. N/A
Federal Tax I.D. 53-0205890
Date: August 31, 2015

IN MAKING PAYMENT REFER TO THE ABOVE INVOICE NUMBER

APA Permissions Office
750 First Street, NE
Washington, DC 20002-4242
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permissions@apa.org
Fax: 202-336-5633

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- Appendix, p. 1070, Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063-1070. doi:10.1037/0022-3514.54.6.1063

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File: McCullough, Mollie (author)

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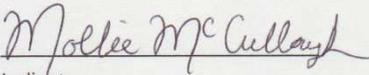
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ACCEPTED AND AGREED TO BY:

PERMISSION GRANTED ON ABOVE TERMS:



Applicant

September 1, 2015
Date



for the American Psychological Association

August 31, 2015
Date

Appendix O: Permission to Use the Flourishing Scale (FS)

The screenshot shows a web browser window with the URL `internal.psychology.illinois.edu/~ediener/FS.html`. The page header identifies Ed Diener as a Joseph R. Smiley Distinguished Professor Emeritus of Psychology and Senior Scientist for the Gallup Organization. The navigation menu includes Home, Contacts & Links, Ed Diener & Lab, RESEARCH, SCALES, and Inquiries. A search bar is present with the text "FIND STUFF" and a "Search" button. The main content area is titled "Scales" and "Flourishing Scale (FS)". Under "Scales", there is a list of various scales including Satisfaction with Life Scale (SWLS), Scale of Positive and Negative Experience (SPANE), Flourishing Scale (FS), Scales for Children and Teenagers, Affect Intensity Measure (AIM), and Inventory of thriving (CIT & BIT). The "FS Translations" section lists Chinese, Filipino, German, German 2, Hungarian, Italian, and Japanese. The "Permission to Use" section states that the scale is copyrighted but can be used without permission or charge by professionals, provided credit is given to the authors. It cites Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2009). The "About FS" section describes the scale as a brief 8-item summary measure of self-perceived success in important areas. The "Important Papers on the FS:" section lists a 2010 paper by Diener et al. The browser's taskbar at the bottom shows several open PDF files and the system clock indicating 11:55 AM on 9/14/2014.

Appendix P: Flourishing Scale (FS)

FS

Instructions: Below are eight statements that you may agree or disagree with. Using the 1-7 scale below, indicate your agreement with each item by circling the appropriate number that corresponds to your feeling. For each statement, circle a number from (1) to (7) where (1) indicates you **strongly disagree** with the statement and (7) indicates you **strongly agree** with the statement.

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree
1. I lead a purposeful and meaningful life.	1	2	3	4	5	6	7
2. My social relationships are supportive and rewarding.	1	2	3	4	5	6	7
3. I am engaged and interested in my daily activities.	1	2	3	4	5	6	7
4. I actively contribute to the happiness and well-being of others.	1	2	3	4	5	6	7
5. I am competent and capable in the activities that are important to me.	1	2	3	4	5	6	7
6. I am a good person and live a good life.	1	2	3	4	5	6	7
7. I am optimistic about my future.	1	2	3	4	5	6	7
8. People respect me.	1	2	3	4	5	6	7

Appendix Q: Permission to Use MBI-ES

For use by Mollie McCullough only. Received from Mind Garden, Inc. on November 11, 2014



www.mindgarden.com

To whom it may concern,

This letter is to grant permission for the above named person to use the following copyright material for his/her thesis or dissertation research:

Instrument: **Maslach Burnout Inventory, Forms: General Survey, Human Services Survey & Educators Survey**

Copyrights:

MBI-General Survey (MBI-GS): Copyright ©1996 Wilmar B. Schaufeli, Michael P. Leiter, Christina Maslach & Susan E. Jackson. All rights reserved in all media. Published by Mind Garden, Inc., www.mindgarden.com

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The entire instrument may not be included or reproduced at any time in any published material.

Sincerely,

Robert Most
Mind Garden, Inc.
www.mindgarden.com

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Appendix R: Maslach's Burnout Inventory-Educator's Survey (MBI-ES)

For use by Mollie McCullough only. Received from Mind Garden, Inc. on July 30, 2014

MBI-Educators Survey

Christina Maslach, Susan E. Jackson & Richard L. Schwab

The purpose of this survey is to discover how educators view their job and the people with whom they work closely.

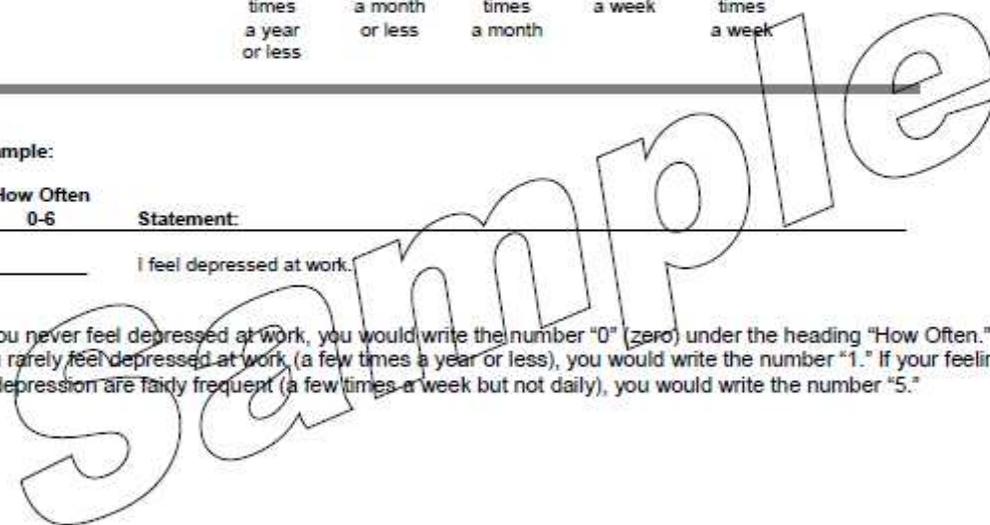
Instructions: On the following pages are 22 statements of job-related feelings. Please read each statement carefully and decide if you ever feel this way about *your* job. If you have *never* had this feeling, write the number "0" (zero) in the space before the statement. If you have had this feeling, indicate *how often* you feel it by writing the number (from 1 to 6) that best describes how frequently you feel that way. An example is shown below.

How often:	0	1	2	3	4	5	6
	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

Example:

How Often 0-6	Statement:
1. _____	I feel depressed at work.

If you never feel depressed at work, you would write the number "0" (zero) under the heading "How Often." If you rarely feel depressed at work (a few times a year or less), you would write the number "1." If your feelings of depression are fairly frequent (a few times a week but not daily), you would write the number "5."



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 MBI-General Survey: Copyright ©1996 Wilmar B. Schaufeli, Michael P. Leiter, Christina Maslach & Susan E. Jackson.
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Appendix S: Permission to use PSS-10

The screenshot shows a web browser window with the address bar displaying www.psy.cmu.edu/~scohen/. The browser has several tabs open, including Pandora One, MyUSF, Pages - USF, User Dashboard, Inbox (204) - m..., Perceived stress, Result List: Perc..., Result List: A gl..., www.psy.cmu.e..., and index. The website content is as follows:

Main
[Dr. Sheldon Cohen](#)
[Vita](#)
[Laboratory Members](#)
[Abstracts](#)
[Scales](#)
[Publications by Topics](#)
[Reprints and Permissions](#)
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For reprints, please send a postcard to:

Ellen Conser
Department of Psychology
Carnegie Mellon University
5000 Forbes Avenue
Pittsburgh, PA 15213

Or, you can email Ellen at conser@andrew.cmu.edu

Note that many articles/chapters and scales are available online, full-text, in the "Vita" section of this webpage.

Permissions

Permission for use of scales is not necessary when use is for academic research or educational purposes.

If you need written permission, please write the letter with a line for signature, along with a self-addressed envelope.

Post Doctoral Applicants:

Send your C.V., relevant papers, three letters of recommendation and cover letter with interests to Dr. Sheldon Cohen, at the above address.

The browser's download bar shows two PDF files named "PSS reliability and va...pdf". The Windows taskbar at the bottom shows the time as 11:39 AM on 9/14/2014.

Appendix T: Perceived Stress Scale (PSS-10)

PSS

Instructions: The questions in this scale ask you about your feelings and thoughts during the last month. In each case, use the 1-5 scale to indicate how often you have felt or thought a certain way in the last month. For each statement, circle a number from (0) to (4), where (0) indicates that you have **Never** felt this way and (4) indicates that you have felt this way **Very Often**.

	Never	Almost Never	Sometimes	Fairly Often	Very Often
1. How often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. How often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. How often have you felt nervous and “stressed”?	0	1	2	3	4
4. How often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
5. How often have you felt that things were going your way?	0	1	2	3	4
6. How often have you found that you could not cope with all the things that you had to do?	0	1	2	3	4
7. How often have you been able to control irritations in your life?	0	1	2	3	4
8. How often have you felt that you were on top of things?	0	1	2	3	4
9. How often have you been angered because of things that were outside your control?	0	1	2	3	4
10. How often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

Appendix U: USF-IRB Study Permission Letter



RESEARCH INTEGRITY AND COMPLIANCE
Institutional Review Boards, FWA No. 00001669
12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799
(813) 974-5638 • FAX(813)974-7091

12/10/2014

Mollie McCullough, B.S.
Educational and Psychological Studies
4202 E. Fowler Avenue
Tampa, FL 33620

RE: Expedited Approval for Initial Review

IRB#: Pro00020048

Title: Improving Elementary Teachers' Well-Being through a Strengths-Based Intervention: A Multiple Baseline Single-Case Design

Study Approval Period: 12/9/2014 to 12/9/2015

Dear Ms. McCullough:

On 12/9/2014, the Institutional Review Board (IRB) reviewed and **APPROVED** the above application and all documents outlined below.

Approved Item(s):

Protocol Document(s):

[Improving Teacher's Individual Well-Being Study Protocol](#)

Consent/Assent Document(s)*:

[Informed Consent Form_Mollie McCullough.pdf](#)

*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab. Please note, these consent/assent document(s) are only valid during the approval period indicated at the top of the form(s).

It was the determination of the IRB that your study qualified for expedited review which includes activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review research through the expedited review procedure authorized by 45CFR46.110 and 21 CFR 56.110. The research proposed in this study is categorized under the following expedited review category:

Appendix U: USF-IRB Study Permission Letter (continued)

(6) Collection of data from voice, video, digital, or image recordings made for research purposes.

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Please submit an amendment to the IRB with the approval letters for the school study site before beginning any study activities.

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB for review and approval by an amendment.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

A handwritten signature in black ink that reads "John A. Schinka, Ph.D." The signature is written in a cursive style with a large initial 'J'.

John Schinka, Ph.D., Chairperson
USF Institutional Review Board

Appendix V: School District Study Permission Letter

School Board

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Doretha W. Edgecomb, Vice Chair
April Griffin
Sally A. Harris
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Superintendent of Schools
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Chief Information and Technology Officer
Dr. Anna Brown

Director
Assessment and Accountability
Samuel R. Whitten

January 13, 2015

Mollie McCullough
5070 Royal Cypress Circle
Tampa, FL 33647

Dear Ms. McCullough:

The Hillsborough County Public School district has agreed to participate in your research proposal, *Improving Elementary Teacher's Happiness*. A copy of this letter **MUST** be available to all participants at Brooker Elementary School to assure them your research has been approved by the district. **Your approval number is RR1415-57. You must refer to this number in all correspondence.** Approval is given for your research under the following conditions:

- 1) Participation is to be on a voluntary basis. That is, participation is NOT MANDATORY and you must advise ALL PARTICIPANTS that they are not obligated to participate in your study.
- 2) If the principal agrees the school will participate, it is up to you to find out what rules the school has for allowing people on campus and you must abide by the school's check-in policy. You will NOT BE ALLOWED on any school campus without first following the school's rules for entering campus grounds.
- 3) You must **request approval from this department before other schools are added to your sample.**
- 4) Confidentiality must be assured for all. That is, ALL DATA MUST BE AGGREGATED SUCH THAT THE PARTICIPANTS CANNOT BE IDENTIFIED. Participants include the district, principals, administrators, teachers, support personnel, students and parents.
- 5) Research approval does not constitute the use of the district's equipment, software, email, or district mail service. In addition, requests that result in extra work by the district such as data analysis, programming or assisting with electronic surveys, may have a cost borne by the researcher.
- 6) This approval **WILL EXPIRE ON 6/30/2015.** You will have to contact us at that time if you feel your research approval should be extended.
- 7) A copy of your research findings must be sent to us for our files and must be submitted to this department.

SERVE VOLUNTEER FORMS/FINGERPRINTING:

Your proposal indicates that you will not come into contact with any students. IF THIS CHANGES, YOU MUST contact us for further instructions.

Good luck with your endeavor. If you have any questions, please advise.

Sincerely,

Theodore Dwyer, Manager of Evaluation
Assessment and Accountability

TD/mt

cc: Julie Lacy-Kelly, Principal, Brooker Elementary School
Shannon Suldo, Ph.D. USF

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e-mail: samuel.whitten@sdhc.k12.fl.us

Appendix W: Participant 8 Time Series Data Graphs

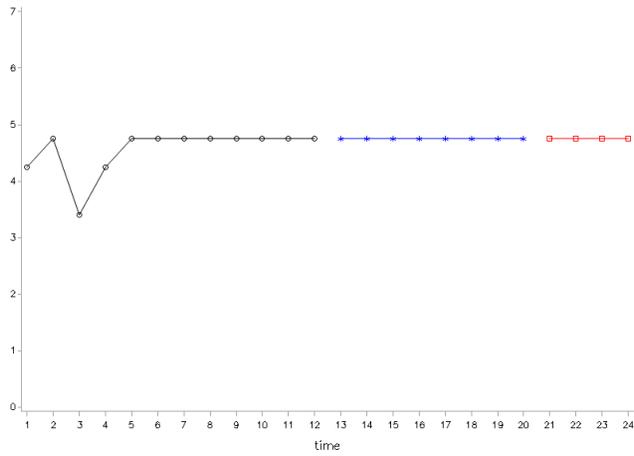


Figure 29. Interrupted Time Series Data for Frequency of Reported Life Satisfaction

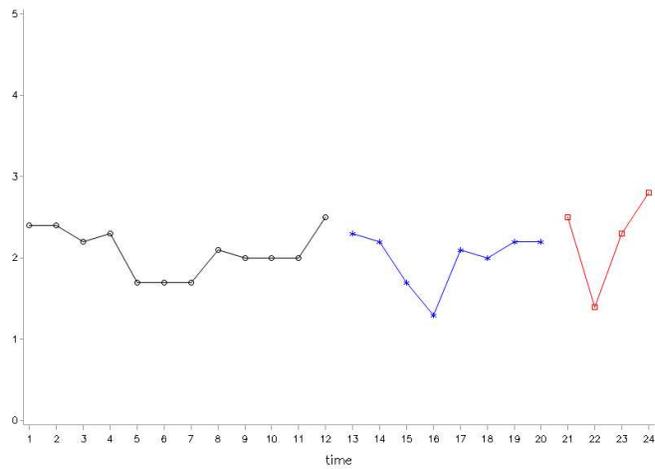


Figure 30. Interrupted Time Series Data for Frequency of Reported Positive Affect

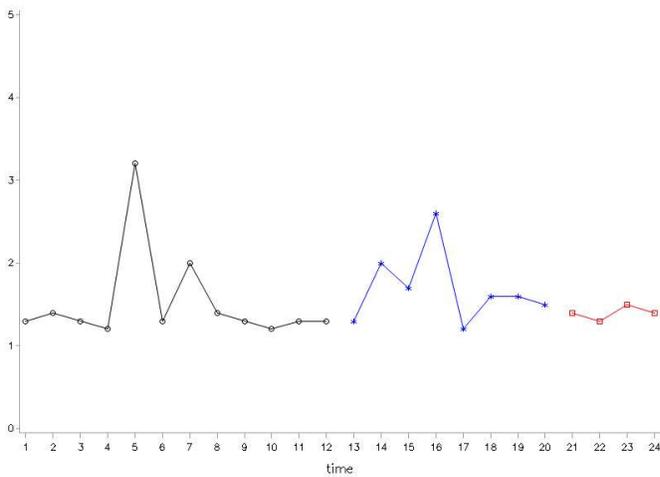


Figure 31. Interrupted Time Series Data for Frequency of Reported Negative Affect