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Investigating the Role of Stressful Life Events and Emotion Regulation as Potential Antecedents of Gratitude in Early Adolescents

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INVESTIGATING THE ROLE OF STRESSFUL LIFE EVENTS AND EMOTION
REGULATION AS POTENTIAL ANTECEDENTS OF GRATITUDE
IN EARLY ADOLESCENTS

by

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ABSTRACT

The construct of gratitude has gained interest over the last decade along with the rise of positive psychology. Gratitude's significant relations with psychological and psychosocial factors have been shown in prior research, although support for such relations in children and adolescents exists, to date the literature is more robust around adults. Additionally, presumed antecedents of individual differences in gratitude have been acknowledged. The present study included a sample of 1872 middle school students and aimed to build on previous work to explore the influence of emotion regulation (i.e., cognitive reappraisal and expressive suppression) in the development of gratitude among youth and adolescents, as well as how emotion regulation may influence the relationship between gratitude and stressful life events. Results of a hierarchical multiple regression analysis indicated that after controlling for demographic factors (i.e., SES, gender, race, and age) the reported occurrence of uncontrollable stressful life events and use of emotion regulation strategies (i.e., cognitive reappraisal and expressive suppression) added statistically significant variance to the expression of gratitude differences. Implications of these results are discussed. Future research should focus on continuing to inform the origins of gratitude as the literature around the construct continues to grow.

CHAPTER 1

INTRODUCTION

Positive Psychology

The study of gratitude has burgeoned with the rise in interest in positive psychology during the last several decades. Positive psychology promotes positive qualities within individuals' lives, working towards well-being, rather than focusing solely on dysfunction and reducing impairment (Seligman & Csikszentmihalyi, 2000; Seligman, Steen, Park, & Peterson, 2005; Vella-Brodrick, 2013). Such an approach is unique from the traditional perspective in psychology with its focus on what helps individuals flourish versus the remission of mental illness. Positive psychology involves the assessment of positive emotions, positive character traits, and the ecological factors that promote favorable functioning in individuals and groups (Seligman & Csikszentmihalyi, 2000). Overall, there has been an increased emphasis in psychology research and practice towards the enhancement of positive characteristics (i.e., emotions, character traits) in individuals across the various facets of life (Bird & Markle, 2012; Suldo, Huebner, Savage, & Thalji, 2011).

As positive psychology becomes more prevalent in general, its impact on youth and adolescent populations is demonstrated in the existing literature through the commonalities and differences between these younger populations and adults (e.g., Seligman & Csikszentmihalyi, 2000). Research on positive youth development incorporates the influences of the home, peer group, and out-of-home contexts (e.g.,

schools) on positive outcomes as well as the reverse influences, reflecting the complex interactions between individual and environmental factors that promote positive psychological growth (Gilman, Huebner, & Buckman, 2008). With the rise of positive psychology in the 20th century, the antecedents and consequences of a variety of positive emotions, including gratitude, have been further explored (Emmons & Crumpler, 2000; McCullough, Emmons, Kilpatrick, & Larson, 2001; McCullough et al., 2004) because gratitude has been shown to predict important outcomes, such as positive mental health, school performance and occupational performance in children and adults (.e.g., Seligman, Steen, Park, & Peterson, 2005; Tian, Du, & Huebner, 2015, Ma et. al., 2013).

Gratitude

Historically, gratitude has been valued in theological and philosophical realms. However, prior to the emergence of positive psychology, it had been featured less in psychology research. Gratitude has been conceptualized in a variety of ways throughout history. In theological and philosophical teachings, gratitude has been acknowledged as a desirable state. Adam Smith (1790/1976) conceptualized gratitude as “the sentiment which most immediately and directly prompts us to reward” (p. 68). Weiner and Graham (1989) conceptualized gratitude as “a stimulus to return a favor to the other and thus reintroduce balance” (p. 403). Further, Lazarus and Lazarus (1994) conceptualized gratitude as an empathic emotion, which recognizes or appreciates an altruistic gift. Emmons and Crumpler (2000) added, “Minimally, gratitude is an emotional response to a gift. It is the appreciation felt after one has been the beneficiary of an altruistic act” (pp. 56–57). Emmons and Crumpler (2000) further noted that gratitude is considered a key interpersonal and personal virtue.

In research, gratitude has been conceptualized at two levels (McCullough, Tsang, & Emmons, 2004). The first level is the state level, which represents momentary emotions or longer duration moods that may occur in response to a specific act of kindness from another. State gratitude is an affect that is experienced after a person has been helped and may motivate the recipient to reciprocate (Bartlett & DeSteno, 2006; McCullough et al., 2001; Tsang, 2006). The second level is the trait level. Trait level gratitude is conceptualized as a disposition to experience gratitude over time; it reflects an individual difference variable (Wood et. al., 2008). In this study, the focus is on the trait level of gratitude given the robust and pervasive network of nomological relations associated with trait measures of gratitude offer (Froh, Fan et al., 2011).

Research on the construct of gratitude has focused primarily on adults; however, research efforts targeting gratitude in adolescents have steadily increased. Previous research demonstrates increased levels of gratitude are beneficial in adults and has continued to emerge as beneficial for adolescents as well (Froh et al., 2014). Adolescent populations are unique given their increased susceptibility to peer influence often increasing engagement in risky behavior compared to adults (Steinberg & Monahan, 2007) and neurodevelopmental sensitivity within these years (Hare et. Al., 2008; Powers & Casey, 2015). Increasing adaptive skills, such as gratitude, at a young age such as in adolescence promotes a variety of beneficial outcomes such as academic performance and wellbeing. The literature specific to gratitude and adolescents illustrates that elevated levels of gratitude in youth can be beneficial in a variety of ways, which will be discussed in the next section (e.g., Froh, Bono, & Emmons, 2010; Froh, Sefick, & Emmons, 2008; Layous & Lyubomirsky, 2014; McCullough, Emmons, & Tsang, 2002).

Presumed Consequences of Gratitude

Numerous studies have addressed the possible consequences of gratitude differences across ages. The results reveal a variety of important outcomes associated with gratitude, including improved mental and physical health, school performance and extracurricular pursuits, along with family and social relations.

Mental Health. In high school students, gratitude predicted higher levels of life satisfaction (Froh, Emmons et al., 2011; Gillham et al., 2011). Gratitude also related to higher levels of life satisfaction in children in an experimental study (Froh & Kashdan, 2009) and adolescents in cross-sectional studies (Froh & Yurkewicz, 2009; Froh & Kashdan, 2009; Chan, 2012). Further, gratitude in adolescents demonstrates a positive association with optimism and self-esteem (Froh & Yurkewicz., 2009; Li et. al., 2012). Regardless of age, gratitude may be a determinant of overall well-being (Froh et al., 2008; Seligman, Steen, Park, & Peterson, 2005; Tian, Du, & Huebner, 2015) and demonstrates a significant positive correlation with sleep quality (Wood, A. M, Joseph, S., & Maltby, J., 2009). As a protective factor in adolescents, gratitude has been associated with less suicidal ideation and attempts (Li et al., 2012) and predicted lower levels of depression and risky behaviors (i.e., drug or alcohol abuse and risky sexual behavior; Froh, Emmons et al., 2011). Gratitude has also demonstrated significant negative correlation with trait depression in college students (Wood et. al., 2009). Previous studies also demonstrate that gratitude may act as a buffer against the negative impact of stressful life events (e.g., suicidal ideation, avoidance; Isreal-Cohen et al., 2015, Li et al., 2012). Deichert and colleagues (2019) evaluated whether gratitude (i.e., appreciation of others) moderated the relation between SLEs and psychological (i.e., depressive symptoms) and physiological symptoms (i.e., headache, increased heart rate) in

undergraduate students. Results indicated that gratitude acted as a buffer against the effects of stressful life events; individuals with higher levels of appreciation of others endorsed lower levels of psychological and physiological symptoms and individuals with lower levels of appreciation reported greater levels of psychological and physiological symptoms (Deichert et. al., 2019). Additionally, Froh, Yurkewicz, and colleagues (2009) conducted an experimental study with adolescents that indicated gratitude influences not only psychological well-being but also physical well-being, with gratitude being associated with reduced physical symptoms (i.e., headaches, stomach aches, chest pain, sore throat).

Family and Social Engagement. Parent's and children's levels of positive emotions demonstrated a positive relationship, specifically linking maternal gratitude and children's gratitude levels. Further, maternal gratitude was related to children's life satisfaction (Hoy et al., 2012). Relationally, gratitude can influence efforts of giving and receiving gifts, and positive family relationships (Ma et al., 2013).

In young adults, gratitude promotes positive affect and prosocial traits (McCullough et al., 2002). A state of gratitude may motivate individuals to act prosocially, which in turn enhances their social relations (Emmons & Shelton, 2002). Additionally, prosocial behavior partially mediated the relation between gratitude and subjective well-being (Tian, Du, & Huebner, 2015). Perceived social support may account in part for the relationship between gratitude and well-being in middle and high school students through gratitude promoting appreciation and seeking of social support as well as perceiving more social support (Chen et. al., 2008; Chen et. al., 2013). Of the presumed consequences of gratitude, some offer longer term impact, such as improvement in both psychological functioning and social

functioning 6 months later (Froh et al., 2010) and 4 years later (Bono, Froh, & Emmons, 2012).

School and Extracurricular Environment. Gratitude predicts higher academic success in high school students (Froh et. al., 2011) and relates to higher academic performance in middle school students (Ma et. al., 2013). Furthermore, a gratitude intervention in an elementary classroom promoted increased thanking behavior and positive affect (Froh, Kashdan et. al., 2009). This suggests that increased gratitude in the classroom has the potential to increase subjective well-being and academic performance.

Specifically related to their sport, gratitude promoted team satisfaction and deterred burnout in Taiwanese high school athletes (Chen et. al., 2008). In adolescent athletes, gratitude was positively related to life satisfaction and partially mediated by team cohesion (Chen et. al., 2015). In collegiate athletes, mindfulness enhanced the relationship between gratitude and life satisfaction (Chen et. al., 2017). A gratitude intervention in collegiate athletes promoted well-being and functioned as a buffer for psychological distress (Gabana, 2019).

In sum, the literature reveals meaningful relations between gratitude and mental health, relationships, and academic performance in children, adolescents, and young adults. Measures of positive mental health demonstrate a positive relationship with gratitude whereas measures of negative mental health demonstrate a negative relationship with gratitude. Existing studies suggest a robust association between gratitude and multiple psychological variables, including life satisfaction (Froh, Emmons et al., 2011; Gillham et al., 2011) and wellbeing (Tian, Du, & Huebner, 2015). The literature demonstrates that gratitude buffers against negative life outcomes in high school students, predicting lower

levels of depression and risky sexual behavior (Froh, Emmons et al., 2011). Particularly for adolescents when faced with stressful life events, gratitude has been supported as a protective factor for negative mental health (e.g., depressive symptoms, suicidal ideation, somatic symptoms; Li et al., 2012; Isreal-Cohen et al., 2015; Deichert et. al., 2019). Findings in research indicate that gratitude promotes prosocial behavior (Emmons & Shelton, 2002) and positive family relations (Ma. Et. al., 2013); particularly with long term effects of improved social functioning in adolescents (Bono, Froh, Emmons, 2012). Additionally, the literature suggests meaningful relations between gratitude and increased academic outcomes (Froh et. al., 2011; Ma et. al., 2013). Therefore, gratitude in youth through young adult years can operate as a protective factor and offers a variety of positive outcomes. A review of literature regarding presumed antecedents of gratitude follows.

Presumed Antecedents of Gratitude

Trait gratitude appears as early as age 8 in children (Froh et. al., 2014); however, to date the bulk of the research on gratitude in children and adolescents has focused on its consequences, with little attention to the origins of individual differences. Theories regarding the origins of gratitude are scant. Scholars suggest that differences in gratitude may evolve in relation to a naturally occurring predisposition or may occur via engagement in an individual's environment. Affective trait theories suggest that gratitude is cultivated intrinsically when considered from a dispositional standpoint. Individual growth of an already present predisposition is sparked by the environment, particularly the interpersonal environment (e.g., Froh et al., 2010, McCullough et al., 2002). However, some theories of gratitude rooted in Bandura's (1977) social learning theory, such as the find-remind-and-bind (Algoe, 2012) and moral paradigm (McCullough, Kilpatrick, Emmons, & Larson, 2001),

indicate that gratitude expression is cultivated by interactions in an individual's interpersonal environment. Individual (i.e., personality) and environmental antecedents have been identified that relate to the development of gratitude in adults and adolescents.

Individual Differences (Personality). Studies with adult participants (McCullough et al. 2002) indicate that some variance in gratitude (21-28%) can be explained by the Big Five personality variables (openness, conscientiousness, extraversion, agreeableness, and neuroticism. McCrae and Costa 1999). Specifically, extraversion in adolescents (Reckart et. al., 2017) and adults (McCullough et al. 2004; Szczesnaik et. al., 2020) promoted gratitude. Wood and colleagues' (2008) work indicated that factors related to extraversion, such as warmth and gregariousness, were also positively associated with gratitude in young adults. Alternatively, in adolescents (Reckart et. al., 2017), young adults (Wood et. Al. 2008), and adults (Solom, Watkins, McCurrach & Scheibe, 2016; Szczesnaik et. al., 2021), studies suggest a negative relationship between gratitude and neuroticism.

Relational Factors. Relational factors may contribute to gratitude development in undergraduate students through acts of kindness (Algoe, Haidt, & Gable, 2008). Additionally, perceived social support is linked to gratitude development in adolescents (Reckart et. al., 2017). Within family systems, positive correlations between maternal gratitude levels and child gratitude levels suggest that maternal models may contribute to gratitude development (Hoy, Suldo, & Mendez, 2012).

Attachment provides a possible causal link to trait gratitude as attachment security is associated with gratitude. Individuals with secure attachment often carry positive models of self and have partners who provide them with support. Additionally, they are more prone to

perceiving situations with more gratitude than individuals with insecure attachment (Dinh, Tram Thi Huyen, 2016).

Environmental Influence. In addition to intrapersonal and relational contributors, there are a variety of environmental and demographic factors that demonstrate a possible causal link to gratitude such as gender, age, mood, and exposure to stressful life events. Such factors are discussed below.

Gender. Demographic factors such as gender and age influence gratitude. Specific to children and adolescents, girls tend to express higher levels of gratitude compared to boys (e.g, Froh, Yurkewicz, et. Al., 2009; Chan, 2012; Reckart et. al., 2017). Research also indicates adult women embrace grateful feelings and express gratitude more frequently/intensely than men (Dinh, Tram Thi Huyen, 2016; Mann, 2012; Kashdan et. al., 2009). Kashdan and colleagues (2009) found that such a discrepancy may be a result of adult men displaying a more critical perspective of gratitude due to societal values (e.g., autonomy and power), and accepting an item from others may be viewed as dependency and associated with expectations of returned favor. Conversely, women experienced greater gratitude, often perceiving gift giving as less obligatory than men and perceiving gratitude acts as less challenging and burdensome than men (Kashdan et. al., 2009). Women demonstrated more willingness to express emotions, were more likely to demonstrate grateful dispositions, and were more likely to demonstrate prosocial behavior; therefore, they reported higher levels of gratitude (Kashdan et. al., 2009).

Age. It is suggested developmentally that school-aged children consider the intentions and thoughts of a gift-giver when determining feelings of gratitude (Poelker, & Kuebli, 2014). Further, when both the giver and receiver of an item are engaged in

considering the other individual's desires, older children may be more likely to show gratitude because of western cultural influences (i.e., emphasis on self-determination, self-actualization, and autonomy; O'Brien, Mendonça, & Price, 2018). This may be due to increased ability to behave autonomously and to consider the perspectives of other individuals (Tudge, Freitas, & O'Brien, 2015).

Mood. Positive feelings are linked to facial and verbal expressions of gratitude in Japanese and Thai students (Naito, Wangwan, & Tani, 2005). Day to day fluctuations in mood, intraindividual differences, and daily activities may also impact the amount of trait gratitude people experience (McCullough, Tsang, & Emmons, 2004). For example, religious practices, such as prayer, increase gratitude (Lambert, Fincham, Braithwaite, Graham, & Beach, 2009).

Stressful life events. Experience of stressful environmental events in youth can wield direct and indirect impacts on well-being (Hobfoll, 1989). In a study with adolescents, acute stressful life events related negatively to gratitude (Reckart et. al., 2017).

Socioeconomic status. A cross-sectional study found that dispositional gratitude in adults significantly moderated the relationships between SES and an inflammatory biomarker representing physical health (Hartanto et. al, 2019). This study suggests that gratitude may reduce health impacts from socioeconomic stressors. In adolescents, students from lower SES, as represented by receiving free or reduced lunch at school, reported lower levels of gratitude (Reckart et. al., 2017).

Continuing to understand how gratitude develops in adolescents will inform intervention efforts to promote trait gratitude thus promoting an array of beneficial presumed consequences. Although our current understanding of how gratitude develops is in its

infancy, previous research suggests that exposure to stressful life events influences the development of gratitude and further exploration into the details of that relationship is warranted.

Stressful Life Events & Emotion Regulation

Adolescents are exposed to a variety of unique stressors that require adaptive emotion regulation (Silk, Steinberg, & Morris, 2003). Acute stressful life events represent unexpected changes in an individual's circumstances (e.g., parental unemployment, breakup with a boyfriend/girlfriend, and serious illness/injury). Stressful life events can impact brain development by influencing which synaptic pathways are reinforced which influences habit formation (Hollenstein & Loughheed, 2013; Benningfield, Potter, & Bostic, 2015). Further considering brain development, the emotion processing area of the brain (i.e., limbic system) matures at a younger age than the part of the brain that manages executive functioning (i.e., neocortex) which matures in young adulthood (Gogtay et al., 2004; Fjell et al., 2012). Such stages suggest that the adolescent brain may be more prone to emotional reactivity in provoking situations (Powers & Casey, 2015). Further, the adolescent brain is more reactive to emotional stimuli (Hare et al., 2008). Therefore, adaptive emotion regulation strategies in adolescents are imperative. Emotion regulation refers to the processes by which people modulate and express their emotions both consciously and unconsciously through cognitive and behavioral strategies (Gross, 1998; Naragon-Gainey, McMahon, & Chacko, 2017). Adaptive emotion regulation strategies (Peña-Sarrionandia, Mikolajczak, & Gross, 2015), result in beneficial long-term outcomes (e.g., cognitive reappraisal, problem solving, mindfulness, and acceptance; Aldao, Nolen-Hoeksema, & Schweizer, 2010; Hu, Zhang, Wang, Mistry, Ran, & Wang, 2014; Schäfer, et. al., 2017). Conversely, some emotion

regulation strategies result in long-term negative outcomes (i.e., avoidance, rumination, expressive suppression, and worry; Aldao, Nolen-Hoeksema, & Schweizer, 2010; O'Driscoll et al., 2014; Schäfer et al., 2017; Seligowski et al., 2015). When facing adversity, adaptive emotion regulation enhances positive adjustment (Boyes, Hasking, & Martin, 2016; Flouri & Mavroveli, 2013).

Coping and emotion regulation are similar constructs, with a few distinctions (Compas et. al., 2014). Both coping and emotion regulation refer to processes of regulation, purposeful events, and temporal processes. Additionally, both can occur under stress; for example, coping includes a wide range of skills, one of which is an individual's efforts to regulate one's emotions in stressful situations. In some sense, emotion regulation strategies can be considered ways of coping (Skinner & Zimmer-Gembeck, 2007 p. 122) in stressful situations. However, emotion regulation skills expand beyond stressful situations to non-stressful moments as well (Compas et. al., 2014).

Arnarson and colleagues' study found that emotion regulation in adolescents may provide a link between stressful life events and psychopathology (2015). In a cross-sectional study, maladaptive coping strategies (i.e., self-blame, other blame, catastrophizing, and rumination) mediated the relationship between stressful life events and depressive symptoms in adolescents (Stikkelbroek et. al., 2016). Unbalanced use of emotion regulation strategies (i.e., frequent use of maladaptive strategies and infrequent use of adaptive strategies) relate to increased levels of depressive symptoms (van den Heuvel et. al., 2019); however, an individual's equal use of both adaptive and maladaptive strategies was not associated with higher levels of depressive symptoms in a cross-sectional study (van den Heuvel et. al., 2019). Additionally, in a sample of Australian adolescent students, cognitive reappraisal was

negatively associated with stressful life events and one year later resulted in lower psychological distress (Boyes, 2016). Conversely, stressful life events were associated with higher use of expressive suppression (Boyes, 2016). Further, cognitive appraisal and expressive suppression partially mediated the relation between stressful life events and psychological distress such that more frequent stressful life events related to less use of cognitive reappraisal and more use of expressive suppression, both resulting in higher psychological distress one year later. This suggests that intervention targeting emotion regulation strategies (i.e., promoting cognitive reappraisal and minimizing expressive suppression) in adolescents who have experienced stressful life events may decrease negative mental health symptoms. In a longitudinal study with British adolescents, cognitive reappraisal moderated the relations between stressful life events and problem behavior suggesting it may be a protective factor (Flouri & Mavroveli, 2013). Such results indicate that cognitive reappraisal may also moderate the relationship between stressful life events and positive outcomes, such as gratitude.

Emotion Regulation and Gratitude

In a study by Wood and colleagues (2007) gratitude correlated positively with adaptive coping skills (i.e., seeking emotional and instrumental social support, cognitive reappraisal, active coping, and planning). Alternatively, gratitude correlated negatively with maladaptive coping strategies (i.e., behavioral disengagement, self-blame, substance use, and denial; Wood et. al., 2007).

The demonstrated relations between gratitude and adaptive/ maladaptive coping skills encompass emotion regulation skills. Although early in its development, some studies supported a relation between emotion regulation and gratitude. Cognitive reappraisal

mediated the relationship between ambivalence of emotional expression and depressive symptoms in undergraduate students who endorsed elevated levels of gratitude in a cross-sectional study (Bryan, 2018). Additionally, a recent study by Millonado Valdez & Daep Datu (2021) indicated a positive relationship between gratitude and adaptive emotion regulation strategies (e.g., cognitive reappraisal) in high school students. It is plausible that the reverse relation between gratitude and cognitive reappraisal may also be observed in which cognitive reappraisal serves as the antecedent to gratitude (i.e., higher levels of cognitive appraisal facilitate gratitude).

In adolescents, dispositional gratitude promotes physical and mental health, academic performance, life satisfaction, and social engagement. Insight into the origins of gratitude inform support and intervention strategies for the development of dispositional gratitude in adolescents, therefore, promoting a variety of positive health and performance benefits. Research to date indicates a negative relationship between stressful life events and gratitude. Given that some stressful life events are uncontrollable, understanding what additional factors may influence the relationship between stressful life events and gratitude could guide intervention development. Emotion regulation strategies demonstrate a significant relationship with both stressful life events and gratitude independently. Particularly in adolescence, emotion regulation strategies are significant due to stages of brain development. Therefore, in adolescence, the use of adaptive emotion regulation strategies has the potential to moderate the effects of stressful life events on gratitude. The identification of such moderators would inform interventions designed to promote gratitude in adolescence, in turn promoting the variety of positive gratitude consequences.

Current Study

This study addressed gaps in the literature regarding the antecedents of gratitude among early adolescents by further exploring the relations among stressful life events, emotion regulation, and gratitude. The research to date emphasizes the importance of investigating the antecedents of gratitude considering the positive physical, psychological, psychosocial and academic benefits of gratitude in children and adolescents (e.g., Bono et al., 2014; Froh, Emmons et al., 2011; Froh, Yurkewicz et al., 2009; Gillham et al., 2011; Ma et al., 2013). Previous research suggests that the occurrence of (uncontrollable) stressful life events is a key antecedent of gratitude differences (Reckart. et.al., 2017). Nevertheless, the modest association between the two suggests that this association may be moderated by other variables, such as individual difference variables. One plausible moderator is emotion regulation strategies (cognitive reappraisal and expressive suppression) which reveal an independent and significant relationship between SLEs and gratitude (e.g., Boyes 2016, Bryan 2018). This study will focus on two of the most frequently studied emotion regulation strategies; cognitive reappraisal and expressive suppression (Gross, 1998).

My specific research questions and associated hypotheses include:

1. Do stressful life events relate to gratitude? Based on previous research, I hypothesized that stressful life events will negatively relate to gratitude.
2. Does cognitive appraisal relate to gratitude? I hypothesized that cognitive reappraisal will positively relate to gratitude.
3. Does expressive suppression relate to gratitude? I hypothesized that expressive suppression will negatively relate to gratitude.

4. Does cognitive reappraisal moderate the relation between stressful life events and gratitude? I hypothesized that cognitive reappraisal would moderate the effects of stressful events on gratitude, such that the association between the occurrence of stressful life events and gratitude would be lower among early adolescents who were higher in cognitive reappraisal versus those lower in cognitive reappraisal
5. Does expressive suppression moderate the relation between SLEs and gratitude? Specifically, I hypothesized that expressive suppression would moderate the effects of stressful events on gratitude, such that the association between the occurrence of stressful life events and gratitude would be higher among early adolescents who were higher in expressive suppression versus those who were lower in expressive suppression.

This study goes beyond previous research by investigating the relationships between stressful life events and the development of gratitude among early adolescents, considering cognitive reappraisal and expressive suppression as possible moderators of the relationship.

CHAPTER 2

METHOD

Participants

Participants for this study included an initial sample of 1872 students comprised of four schools in the Southeastern United States in grades 6-8. Students absent from school when data were collected on one or more days or those who did not participate due to unknown circumstances were not included in the data collection. Therefore, this sample represented approximately 81.71% response rate of eligible students in the four middle schools participating. Questionnaires were collected from each middle school and contributed to a school-based, school-wide monitoring of school climate, student well-being, and student engagement. Student's age ranged from 11 to 17 years and represented African American (22.3%), Caucasian (54.5%), Asian American or Pacific Islander (1.3%), Biracial (8.3%), or another racial identity (1.2%). Additionally, students were asked to self-report their gender (male, 52%: female, 47.3%), grade level (6th, 28%: 7th, 34.1%: 8th, 36.6%), and whether they received reduced/ free lunch rates as a proxy for parental socioeconomic status (SES; regular, 51.8%: free/reduced, 38.6%).

Procedures

The data for this study was derived from a larger schoolwide survey of students addressing school climate and student well-being conducted by the school administrators of four middle schools in the Southeastern United States in March 2016. Data for this study

have been reported elsewhere (e.g., Reckart et. al., 2017), but these analyses are new. Parents were notified of the survey through a letter to the parents offering an opt-out procedure that required them to return the form if they did not want their child to participate. Homeroom teachers distributed the paper-and-pencil surveys and read scripted instructions to explain the purpose and directions to their homeroom students. The survey was completed over two days within the same week to minimize respondent fatigue and increase completion. De-identified survey results were provided to the research team by school administrators for data analysis. Across the four schools during data collection, a total of 27.09% of the students were absent during data collection and did not complete the measures. Approval for this study was granted from the University of South Carolina Institutional Review Board.

Measures

Gratitude. The Gratitude Questionnaire-6 was used to assess gratitude (GQ-6; McCullough et al., 2002). This 6-item self-report scale is based on McCullough and colleagues' (2002) theory that people who have a grateful disposition (trait gratitude) can be distinguished by four qualities: intensity, frequency, span, and density. The present study included only the first five items of the GQ-6 due to reports that the sixth item was too abstract in nature, carried weak factor loadings, and therefore, deemed inappropriate for youth (Froh, Fan et al., 2011). Froh, Fan and colleagues (2011, p.314) in formal interviews with adolescents noted that the sixth item was “very abstract” and “difficult to understand”. Participants were asked to respond to the questionnaire items using a 7-point Likert scale encompassing “strongly disagree” to “strongly agree.” Within the remaining five items, examples are “I have so much to be thankful for,” and “I am grateful to a wide variety of

people.” A total is derived by calculating the mean after reverse keying the response to item 3.

The GQ-6 has support for internal consistency ($\alpha = .76$ to $.85$ in participants of ages 10 to 19 years) and factorial validity using confirmatory factor analyses with youth and adolescents (see Froh, Fan et al., 2011). On the GQ-6, test–retest reliability over a 3-month interval has been reported ($r = .59$; Wood, Maltby, Gillett, Linley, & Joseph, 2008). Additionally, the GQ-6 has support for convergent validity with the Gratitude Adjective Checklist (GAC; McCullough et al., 2002) and Gratitude Resentment Appreciation Test-short form (GRAT-short; Watkins, Woodward, Stone, & Kolts, 2003) across participants ages 10 to 13 years ($r = .22$ to $.61$) and with the GAC in adolescents ages 14 to 19 years ($r = .42$ to $.57$). The coefficient alpha for the abbreviated GQ-6 with this sample was 0.82.

Stressful life events. Stressful life events were assessed by the Life Events Checklist (LEC) which is an adjusted version of the Life Event Record (Coddington, 1972). The LEC is appropriate for children and adolescents (10-17 years old) and is a 46-item self-report scale. The LEC is intended to assess the occurrence of significant life events often experienced by children and adolescents (Johnson & McCutcheon, 1980). More specifically, the LEC assesses two types of life events (i.e., controllable events and uncontrollable events). Controllable events may be experiences such as joining a new club, trouble with friends, failing a grade. Uncontrollable events are experiences like parental divorce, economic hardship, and the loss of a close friend.

This study considered uncontrollable life events (18 items). Participants endorsed the absence or occurrence of specific life events and the subsequent emotional valence of the experienced events (e.g., the event occurred, and it was a good thing, the event occurred, and

it was a bad thing) over the past year. Greater sum scores indicated higher objective occurrence of stressful life events. The number of endorsed occurrences of an event occurring and being perceived as negative were totaled and used for this study.

Good convergent validity of the LEC with other measures of stressful life events has been established (i.e., Stressful Life Events Schedule for Children and Adolescents and the Life Events and Difficulties Schedule; Duggal et al., 2000; Williamson et al., 2003). Internal consistency was not calculated since discretely occurring items that are not anticipated to intercorrelate comprise the LEC (Dohrenwend, 2006).

Emotion Regulation. Emotion regulation practices were assessed by the Emotion Regulation Questionnaire for Children and Adolescents (ERQ_C) which is an adapted version of the Emotion Regulation Questionnaire used with adults (Gross & John, 2003).

The ERQ_C is designed to measure the use of emotion regulation strategies in children and adolescents (i.e., cognitive reappraisal and expressive suppression) ages 10 to 18 years with a 10-item self-report scale (Gullone & Taffe, 2012). Questions on the scale are split with 6 items targeting cognitive reappraisal (e.g., “I control my feelings about things by changing the way I think about them”) and 4 items targeting expressive suppression (e.g., “I control my feelings by not showing them”). Participants rate items on the ERQ_C on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores indicate more frequent use of the related emotion regulation strategy. Respective items for each strategy (cognitive reappraisal and expressive suppression) were calculated to find the mean for each participant. The ERQ_C demonstrated good convergent validity with other measures of emotion regulation (Difficulties in Emotion Regulation Scale; Eastabrook, Flynn, & Hollenstein, 2014; Loughheed & Hollenstein, 2012). Additionally, the ERQ_C scores have

exhibited acceptable to good internal consistency (Gullone & Taffe, 2012). The 1-year test-retest coefficients were .45 for Cognitive Appraisal .47 for Expressive Suppression. In this study, the internal consistency of the Cognitive Reappraisal subscale was acceptable ($\alpha = 0.84$) as was the internal consistency of the Expressive Suppression subscale ($\alpha = 0.65$).

CHAPTER 3
ANALYSIS & RESULTS

Preliminary Analyses

Data were assessed for possible violations of model assumptions prior to conducting any analysis. Through this process missingness across scales ranged from 0% to 10.7% were discovered, which can impact results via standard errors and significance (Cohen, Cohen, West, & Aiken, 2003). Multiple imputation, which utilizes existing values within the dataset to predict and replace any missing values, was used to handle missing data. To achieve the most realistic dataset, forty new datasets were created and with a random number generator one dataset was chosen for analysis. Analyses were conducted using IBM SPSS Statistics for Windows, Version 28.0.

Normality and violation of model assumptions were assessed through examination of skewness, kurtosis, histograms, and Q-Q plots post multiple imputations. The assessments of skewness revealed possible statistically problematic features in the dataset, as the magnitude of skewness for stressful life events was 2.18, which exceeds the acceptable range of -2 and 2 (Lomax, 2001). Additionally, the assessment of kurtosis revealed possible statistically problematic features in the dataset, as the kurtosis value for stressful life events (4.08) exceeded the acceptable range of between -2 and 2 (Lomax, 2001). When the variable for stressful life events was transformed using a square root transformation, it fell in the

acceptable range for both skewness and kurtosis (0.14, -0.87 respectively). All other predictor and criterion variables were within the acceptable range (between -2 and 2; Lomax, 2001).

Data Analysis Plan

To address question 1, a Pearson product moment correlation was calculated to assess the association between stressful life events and gratitude. To address the relations between the stressful life events and gratitude, taking the demographic variables into account, a hierarchical multiple regression analysis was used to explain gratitude by entering steps of variables in the following order: Step 1 (covariates), Step 2 (stressful life events).

Further, to address question 2, a Pearson product moment correlation was calculated to assess the association between cognitive appraisal and gratitude. To address question 3, a Pearson product moment correlation was calculated to assess the association between emotional suppression and gratitude. To address the relations between the emotion regulation variables and gratitude, taking the demographic variables into account, a hierarchical multiple regression analysis was used to explain gratitude by entering steps of variables in the following order: Step 1 (covariates), Step 2 (cognitive reappraisal), Step 3 (expressive suppression).

To address question 4, an interaction term was created by multiplying composite variables for cognitive reappraisal and stressful life events. Following this, a hierarchical multiple regression analysis was used by entering steps of variables in the following order: Step 1 (covariates), Step 2 (stressful life events), Step 3 (cognitive reappraisal), Step 4 (expressive suppression), Step 5 (interaction between cognitive reappraisal and stressful life events).

To address question 5, an interaction term was created by multiplying composite variables for expressive suppression and stressful life events. Following this, a hierarchical multiple regression analysis was used by entering step of variables in the following order: Step 1 (covariates), Step 2 (stressful life events), Step 3 (cognitive reappraisal), Step 4 (expressive suppression), Step 5 (interaction between cognitive reappraisal and stressful life events), Step 6 (interaction between expressive suppression and stressful life events).

Table 3.1 Descriptive Statistics

Variable	Min	Max	<i>M</i>	<i>SD</i>
Gratitude	1.00	7.00	5.80	1.18
Stressful Life Events	0.00	17.00	1.98	2.19
Cognitive Reappraisal	1.00	5.00	3.36	0.84
Expressive Suppression	1.00	5.00	2.93	0.85

Correlations

A correlation analyses demonstrated a significant negative correlation between gratitude and stressful life events as the Pearson product moment correlation coefficient was negative and statistically significant, $r(1869) = -.21, p < .001$. This relation is small per Cohen's (1988) criteria for effect sizes.

The Pearson product moment correlation representing the relation between cognitive reappraisal and gratitude was positive and statistically significant, $r(1869) = .44, p < .001$. This relation indicated a moderate effect size per Cohen's (1988) criteria for effect sizes.

Alternatively, the Pearson product moment correlation representing the relationship between expressive suppression and gratitude was negative and statistically significant $r(1869) = -.12, p < .001$. This relation is small per Cohen's (1988) criteria for effect sizes.

Table 3.2 Intercorrelations between all variables

Variable	1	2	3
1. Gratitude	-		
2. Stressful Life Events	-0.21**	-	
3. Cognitive Reappraisal	0.44**	-0.11**	-
4. Expressive Suppression	-0.12**	0.08**	0.15**

** $p < .001$; * $p < .01$.

Multiple Linear Regression Analyses

One regression analysis was conducted for all relevant research questions to account for family wise error. A preliminary multiple linear regression analysis was run to determine demographic variables to consider as covariates in further analyses. All demographic variables were input as predictors of gratitude. All four variables added statistically significantly to the prediction, $p < .05$.

Results indicated that gender, $t(4, 1655) = 1.99, p = .047, \beta = .05$; SES, $t(4, 1655) = -6.752, p < .001, \beta = -.16$; race, $t(4, 1655) = -3.67, p < .01, \beta = -.088$, and age $t(4, 1655) = -4.49, p < .001, \beta = -.108$; were significantly related to gratitude. This step suggests that gender, SES, race, and age influence students' self-reported levels of gratitude. Results indicate that adolescent females reported higher levels of gratitude than males. Further,

students who indicated lower SES by endorsing they receive free or reduced lunch reported lower levels of gratitude compared to students who did not endorse free or reduced lunch status. Younger adolescents reported lower levels of gratitude when compared to older students. Therefore, gender, SES, race, and age were included as covariates in the subsequent analyses.

Hierarchical Multiple Regression Analysis

A hierarchical multiple regression analysis was conducted to assess whether environmental factors (i.e., stressful life events) accounted for significant incremental variance in gratitude. To control for the key demographics previously determined as covariates with gratitude (SES, gender, race, and age), these constructs were entered into the first step of the multiple linear regression analysis. The second step of the multiple linear regression analysis assessed the relations between stressful life events and gratitude. Specifically, stressful life events were uniquely related to gratitude ($\beta = -.25$) and accounted for an additional 3% of the total variance, $F(5, 1649) = 40.27, p < .001, R^2 \text{ change} = .03$.

The third step of the multiple regression analysis addressed the contribution of cognitive reappraisal to gratitude differences, after controlling for demographic and stressful life events. The results indicated that cognitive reappraisal related independently to gratitude. Gratitude was positively related to cognitive reappraisal, $F(6, 1648) = 89.51, p < .001, R^2 \text{ change} = .16$, accounting for a statistically significant increment (i.e., 16%) in the total variance.

The fourth step of the regression equation assessed the unique contribution of expressive suppression to gratitude differences. The results revealed that expressive

suppression uniquely (negatively) related to gratitude, $F(7, 1647) = 86.6, p < .001, R^2$ change = .02. Expressive suppression added statistically significant variance beyond the occurrence of stressful life events and alternate emotion regulation strategies (i.e., cognitive reappraisal) to the explanation of gratitude differences.

To address Question 4, a fifth step of the multiple linear regression analysis assessed whether the presence of cognitive reappraisal moderated the relationship between gratitude and stressful life events. An interaction term was created to represent the interaction between stressful life events and cognitive reappraisal by multiplying the two terms together. This term was then added to the regression model. Although the overall model was statistically significant, $F(8, 1655) = 76.43, p < .001$, step 5 did not add statistically significant incremental variance over the previous steps $F(8, 1646) = 2.29, p = .13, R^2$ change = .001.

The sixth step of the multiple linear regression analysis was added to address Question 5, whether expressive suppression moderated the relationship between gratitude and stressful life events. An interaction term was created to represent the interaction between expressive suppression and stressful life events by multiplying the two terms together. This term was then added to the regression model. Although the overall model was significant, $F(9, 1645) = 68.16, p < .001$, the added variance in the overall model due to this step was not statistically significant, $F(9, 1645) = 1.77, p = .18, R^2$ change < .001. All steps of the regression analysis and their corresponding regression coefficients can be found in Table 3.

Table 3.3 Hierarchical Multiple Regression Results: Step 1-2

<i>Variable</i>	Step 1			Step 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Gender	.113	.057	.048	.121	.056	.051
Age	-.127	.028	-.108	-.129	.028	-.110
Socioeconomic Status	-.390	.058	-.164	-.316	.057	-.132
Race	-.064	.017	-0.88	-.068	.017	-.094
Stressful Life Events				-.253	.032	-.188
Cognitive Reappraisal						
Expressive Suppression						
Stressful Life Events X						
Cognitive Reappraisal						
Stressful Life Events X						
Expressive Suppression						
R^2		.053			.088	
<i>F for change in R²</i>		23.17			62.23	

Table 3.4 Hierarchical Multiple Regression Results: Step 3-4

<i>Variable</i>	Step 3			Step 4		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Gender	.093	.051	.039	.092	.050	.039
Age	-.070	.025	-.060	-.059	.025	-.050
Socioeconomic Status	-.270	.052	-.114	-.236	.025	-.099
Race	-.055	.016	-0.077	-.051	.015	-.071
Stressful Life Events	-.195	.029	-.146	-.181	.029	-.135
Cognitive Reappraisal	.576	.031	.405	.618	.031	.434
Expressive Suppression				-.223	.030	-.159
Stressful Life Events X Cognitive Reappraisal						
Stressful Life Events X Expressive Suppression						
R^2		.246			.270	
F for change in R^2		345.64			54.22	

Table 3.5 Hierarchical Multiple Regression Results: Step 5-6

<i>Variable</i>	Step 5			Step 6		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Gender	.094	.050	.040	.098	.050	.041
Age	-.058	.025	-.050	-.059	.025	-.051
Socioeconomic Status	-.234	.052	-.098	-.234	.052	-.098
Race	-.052	.015	-.072	-.052	.015	-.072
Stressful Life Events	-.350	.115	-.261	-.252	.136	-.188
Cognitive Reappraisal	.559	.050	.393	.544	.051	.382
Expressive	-.220	.030	-.157	-.168	.050	-.120
Suppression						
Stressful Life Events	.051	.033	.131	.061	.034	.158
X Cognitive						
Reappraisal						
Stressful Life Events				-.045	.034	-.111
X Expressive						
Suppression						
R^2		.271			.272	
<i>F for change in R²</i>		2.29			1.766	

CHAPTER 4

DISCUSSION

Gratitude has been conceptualized in a variety of ways throughout research; one prevalent definition is to consider gratitude as a trait. Trait like gratitude appears in children as early as age eight (Froh et al., 2014). Several studies demonstrate the role of trait gratitude in an array of positive mental and physical outcomes as well as psychosocial and school-related outcomes in adults and adolescents (e.g., Bono et al., 2019). Despite these beneficial outcomes, research considering the antecedents of gratitude has been limited. One exception to date is an exploratory study by Reckart and colleagues (2017) which indicated social support, stressful life events, and personality variables all play a role in the development of trait gratitude. The present study aimed to build on previous work to explore the influence of emotion regulation (i.e., cognitive reappraisal and expressive suppression) in the development of gratitude among youth and adolescents, as well as how emotion regulation may influence the relationship between gratitude and stressful life events.

This study indicated two major findings. First, the frequency of uncontrollable stressful life events was related inversely to gratitude in adolescents as hypothesized. Thus, lower levels of trait gratitude were associated with higher numbers of negative SLE's. The correlation was statistically significant, but small in magnitude. The results of the multiple regression analysis suggest that stressful life events were also statistically significant and inversely related to gratitude after controlling for demographic variables. The findings of the

present study are commensurate with previous research that indicated stressful life events impacted gratitude and given that SLE's within 12 months prior to survey completion were acknowledged, could be considered an antecedent (e.g., Reckart et. al., 2017). Emotion regulation strategies (i.e., cognitive reappraisal and expressive suppression) did not moderate the relationship between stressful life events and gratitude but did function as an independent contributor to adolescents' gratitude. Second, the use of specific emotion regulation strategies (i.e., cognitive reappraisal and expressive suppression) differentially related to individual differences in gratitude in adolescents as hypothesized. Specifically, the findings revealed a statistically significant and moderate (positive) relation between cognitive reappraisal and gratitude as well as a statistically significant, but small (negative) relation between expressive suppression and gratitude. These results suggest that in adolescents, higher reported use of cognitive reappraisal related to higher levels of gratitude. Conversely, adolescents who reported less use of expressive suppression also indicated higher levels of gratitude. Further, emotion regulation strategies uniquely related to gratitude after the demographic variables and stressful life events were accounted for in the regression equation. These results are consistent with previous studies of young adults (Bryan, 2018; Millonado Valdez & Daep Datu, 2021), despite differences in developmental stages.

Although previous studies have investigated gratitude as an antecedent to the use of emotion regulation strategies, (e.g., Bryan, 2018; Millonado Valdez & Daep Datu, 2021), as noted above, the present study suggested direct effects of emotion regulation on gratitude as well (i.e., emotion regulation skills as antecedents). The current findings support the hypothesized linkage between emotion regulation and gratitude. These results further support cognitive reappraisal as an adaptive emotion regulation strategy as it promoted higher levels

of gratitude. Prior studies indicate that higher levels of gratitude promote beneficial consequences (e.g., mental health, academic performance; Froh, Emmons et al., 2011; Ma et al., 2013; Peña-Sarrionandia, Mikolajczak, & Gross, 2015). Conversely in this study, greater expressive suppression, often considered a maladaptive emotion regulation strategy (Schäfer, Naumann, Holmes, Tuschen-Caffier, & Samson, 2017), related to lower levels of gratitude.

In summary, the results further supported the inverse relationship between stressful life events and adolescents' gratitude, showing that the larger the number of uncontrollable, negative, stressful life events adolescents experience, the less gratitude they will experience. Furthermore, although neither emotion regulation strategy moderated the association between stressful life events, both strategies related significantly to adolescents' gratitude, with more frequent use of cognitive reappraisal positively related to gratitude and more frequent use of expressive suppression negatively related to gratitude. These findings suggest that interventions addressing individual factors (e.g., emotion regulation strategies), as well as environmental circumstances (e.g., life events), may promote gratitude. A recent meta-analysis revealed significant improvement in emotion regulation skills across current emotion regulation interventions specific to adolescents (Eadeh, Breux & Nikolas, 2021). The efficacy and effectiveness of such interventions may vary based on their success in promoting adaptive emotion regulation skills (Claro et. Al., 2015) versus decreasing maladaptive emotion regulation skills (Bjureberg et.al., 2018). It is also important to underscore that the present findings expand the number of variables (i.e., cognitive reappraisal and expressive suppression) that appear to contribute to individual differences in trait gratitude among early adolescents. These variables appear important to consider in the development of models addressing the origins of gratitude in adolescents.

Strengths, Limitations, Future Directions for Research

This study served to expand upon the findings of Reckart et. al. (2017) by further investigating the potential antecedents in the development of trait gratitude in early adolescents. It is important to explore the antecedents of gratitude given the wide array of positive physical, psychological, psychosocial and academic outcomes associated with higher levels of gratitude in youth and adolescents (e.g., Bono et al., 2014; Froh, Emmons et al., 2011; Froh, Yurkewicz et al., 2009; Gillham et al., 2011; Ma et al., 2013). The outcomes of this study extended beyond previous research through identifying additional key constructs to consider in the development of theoretical models of gratitude as well as interventions and instructional approaches for adolescents. Additionally, this study considered a relatively large sample size of demographically diverse students' representative of the Southeastern United States (U.S. Census Bureau, 2015) with a notably close female to male ratio. Finally, empirically supported scales relevant to this age group were utilized to assess the variables of interest resulting in the identification of several potential antecedents of gratitude.

Nevertheless, limitations of the current study should be noted. First, although the sample was relatively representative of the Southeastern United States, it was not representative of the United States adolescent population (U.S. Census Bureau, 2015a). Therefore, the use of more representative samples in future research would be beneficial. Second, the present study analyses were cross-sectional in nature. While analysis offered insight for future studies regarding precedent variables (i.e., stressful life events, emotion regulation), future research should utilize multi-wave longitudinal data to clarify the directionality of the relations noted among gratitude and possible antecedents. Third, the present study gathered self-report scales, which may result in common method bias. Future research incorporating multiple

methods of assessment may reinforce validity of the measures (e.g., parent and teacher reports). Finally, future research should consider further addressing potential confounding variables, such as mood, which research indicates influences individual differences in gratitude (McCullough, Tsang, & Emmons, 2004).

Continuing to expand gratitude research with youth offers possible insight into the development of gratitude in individuals within this age range and how to enhance the development of gratitude in youth, thereby impacting the array of consequences of gratitude. To date, gratitude interventions have not acknowledged the possible role of emotion regulation strategies and stressful life events related to gratitude in youth (e.g., Chan, 2010; Froh, 2010; Froh et al., 2008; Emmons & McCullough, 2003). Although interventions in adolescents targeting both the development of gratitude and emotion regulation skills exist independently, they require further research to increase the generalizability and utility (Eadeh, Breaux, & Nikolas, 2021; Lomas et. Al., 2014; Cregg & Cheavers, 2020). Further, research and interventions incorporating factors such as gratitude, emotion regulation skills, reduction of life stressors moderators may be beneficial and enhance effectiveness of interventions.

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APPENDIX A

GRATITUDE QUESTIONNAIRE-6

Directions: Below are sentences that describe how students feel or think about life.

Circle **1** if you **STRONGLY DISAGREE** with the statement.

Circle **2** if you **DISAGREE** with the statement.

Circle **3** if you **SLIGHTLY DISAGREE** with the statement.

Circle **4** if you feel **NEUTRAL** about the statement.

Circle **5** if you **SLIGHTLY AGREE** with the statement.

Circle **6** if you **AGREE** with the statement.

Circle **7** if you **STRONGLY AGREE** with the statement.

Strongly disagree
Disagree
Slightly disagree
Neutral
Slightly agree
Agree
Strongly agree

1. I have so much in life to be thankful for.	1	2	3	4	5	6	7
2. If I had to list everything that I felt grateful for, it would be a very long list.	1	2	3	4	5	6	7
3. When I look at the world, I don't see much to be grateful for.	1	2	3	4	5	6	7
4. I am grateful to a wide variety of people.	1	2	3	4	5	6	7
5. As I get older, I find myself more able to appreciate the people, events, and situations that have been part of my life history.	1	2	3	4	5	6	7

APPENDIX B

EMOTION REGULATION QUESTIONNAIRE (ERQ)

Below are sentences that describe how students cope with their feelings and emotions.

	Strongly Disagree	Disagree	Half and Half	Agree	Strongly Agree
41. When I want to feel happier, I think about something different.	1	2	3	4	5
42. I keep my feelings to myself.	1	2	3	4	5
43. When I want to feel less bad (e.g., sad or angry), I think about something different.	1	2	3	4	5
44. When I am feeling happy, I am careful not to show it.	1	2	3	4	5
45. When I'm worried about something, I make myself think about it in a way that helps me feel better.	1	2	3	4	5
46. I control my feelings by not showing them.	1	2	3	4	5
47. When I want to feel happier about something, I change the way I'm thinking about it.	1	2	3	4	5
48. I control my feelings about things by changing the way I think about them.	1	2	3	4	5
49. When I'm feeling bad (e.g., sad, angry, or worried), I'm careful not to show it.	1	2	3	4	5
50. When I want to feel less bad (e.g., sad or angry) about something, I change the way I'm thinking about it.	1	2	3	4	5

APPENDIX C

STRESSFUL LIFE EVENTS SCALE

Directions: This is a list of things that sometimes happen to people.
 If it **did not happen** to you in the past year (12 months), circle **No**.
 If it **did happen** to you in the past year and was a **good** event, circle **Good**.
 If it **did happen** to you in the past year and was a **bad** event, circle **Bad**.

	No, it did not happen	Yes, it was good	Yes, it was bad
52. Moved to a new home	1	2	3
53. New brother or sister	1	2	3
54. Changed to a new school	1	2	3
55. Family member seriously ill or injured	1	2	3
56. Parents divorced	1	2	3
57. Parents arguing more	1	2	3
58. Mother or father lost a job	1	2	3
59. Death of a family member	1	2	3
60. Parents separated	1	2	3
61. Death of a close friend	1	2	3
62. Mother or father away from home more	1	2	3
63. Brother or sister left home	1	2	3
64. Close friends seriously ill or injured	1	2	3
65. Mother or father got into trouble with law	1	2	3
66. Mother or father got a new job	1	2	3
67. New stepmother or stepfather	1	2	3
68. Mother or father went to jail	1	2	3
69. Change in how much money your parents have	1	2	3

Note. Items on the Life Events Checklist were initially rated as “1= no it did not happen;” “2 = yes, it was good;” and “3 = yes, it was bad.” These responses were recoded to determine the frequency of items marked as “3,” indicating that events occurred and were negative.