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ANTECEDENTS OF ADOLESCENTS' GRATITUDE: PERSONALITY, SOCIAL
SUPPORT, AND STRESSFUL LIFE EVENTS

by

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Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Philosophy in

School Psychology

College of Arts and Sciences

University of South Carolina

2017

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ACKNOWLEDGEMENTS

ABSTRACT

An increase in the emphasis of positive aspects of functioning has led to expanded attention paid to the field of positive psychology. Within in this arena, the construct of gratitude has emerged as a factor of interest, specifically in adults; however, while a basis for research of gratitude in children exists, it is lacking in breadth. Support for gratitude's significant relations with psychosocial, psychological, and academic factors has been shown in prior research, and presumed personal and environmental antecedents of gratitude have been indicated. The present study was exploratory in nature and included a sample of 1506 students from four middle schools in the Southeastern United States. We investigated the relations between gratitude and several previously examined variables across studies of children and adults, including extraversion, neuroticism, social support, and stressful life events. Results of a hierarchical multiple regression analysis indicated that after controlling for gender, SES, and self-identification as Hispanic, the reported occurrence of major stressful life events added statistically significant variance beyond the temporally precedent personality variables (extraversion and neuroticism) and social support (parents, peers, and teachers) to the explanation of gratitude differences. Contrary to expectations, students' levels of social support and neuroticism did not appear to add statistical significance to the explanation of gratitude. Implications of these results are discussed. Future research should focus on clarifying the antecedents of gratitude, as research-related interest in this variable is continually surfacing and gaps remain in the literature regarding the origins of gratitude.

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CHAPTER 1

INTRODUCTION

Introduction to Positive Psychology

Differing from a traditional approach to psychology, positive psychology promotes the presence of positive qualities within individuals' lives, rather than focusing solely on the reduction of negative qualities. The role of positive psychology in the lives of youth and adolescents is becoming increasingly apparent in existing literature (e.g., Seligman & Csikszentmihalyi, 2000). Researchers are now recognizing individual differences both within the separate populations comprised of youth and adolescents and between these two populations and adults.

Positive psychology can be defined as the study of positive emotions, positive character traits, and the institutional features that facilitate optimal functioning in individuals and groups (Seligman & Csikszentmihalyi, 2000). This field of study alters a traditionally pathology-based perspective in psychology by endorsing a strengths-based assessment of individual characteristics and environmental assets. Because of an increased emphasis on positive psychology over the past 50 years (Suldo, Huebner, Savage, & Thalji, 2011), a focus has begun shifting to enhancement of individuals' thriving in all arenas of life (Bird & Markle, 2012).

Related to growth of positive psychology is an increased consideration of positive youth development in the present literature base. Positive youth development

characterizes the occurrence and growth of positive psychology variables and generally takes place in the home, in peer groups, and in out-of-home contexts, such as schools (Gilman, Huebner, & Buckman, 20 08). For example, research indicates that the quality of school experiences at an early age contributes to achievement of developmental milestones, such as identity development in racially diverse students (e.g., Gonzales, 2009), achievement motivation (vanGrinsven & Tillema, 2006), and overall academic success (Cohen, McCabe, Michelli, & Pickeral, 2009). These experiences may also influence the choices youth and adolescents make when they become adults (Gilman, Huebner, & Furlong, 2014). Because children spend the majority of their time in schools, the school setting is arguably an effective avenue to provide children with mental health services (Weist, Evans, & Lever, 2003). Unfortunately, most models of service delivery in schools follow a problem-focused approach, which may not adequately highlight positive areas of students' lives. With the problem-focused approach, students are variously diagnosed with anxiety, depression, behavior problems, and other mental-health disorders, but the targeting of strengths such as hope, optimism, gratitude, positive affect, and other constructs related to positive psychology is either minimally considered or bypassed altogether (Gilman et al., 2014). Therefore, the consideration of positive psychology constructs in the school setting may be especially beneficial, offering a more comprehensive view of children and approaches to mental health promotion (Antaramian, Huebner, Hills, & Valois, 2010; Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008).

Introduction to Gratitude

Research on the construct of gratitude represents an emergent aspect of the field of positive psychology (Bono, Froh, & Forrett, 2014). Although a majority of the literature

to date focuses on adults, some research is surfacing regarding gratitude in youth, continually expanding the field. The extant literature indicates that high levels of gratitude in youth can be beneficial in a variety of ways, and this empirical support is emerging in adolescent research as well (e.g., Froh, Bono, & Emmons, 2010; Froh, Sefick, & Emmons, 2008; Layous & Lyubomirsky, 2014; McCullough, Emmons, & Tsang, 2002). The remainder of the chapter that follows critically reviews contemporary literature regarding gratitude in youth and adolescents, including the benefactors, beneficiaries, and benefits of gratitude. A benefit can be considered to be a behavior that is advantageous or good and occurs between at least two parties. A benefactor can be defined as the person who is providing the benefit and a beneficiary can be characterized as the person who receives the benefit (e.g., Froh, 2010; Froh, Kashdan, Ozimkowski, & Miller, 2009).

Defining gratitude. Though numerous researchers have presented several definitions of gratitude, there is currently no commonly accepted definition among the researchers in the field. However, a distinction is clear in the literature separating benefit-induced gratitude and generalized gratitude.

Benefit-induced gratitude. A number of scholars consider gratitude to be connected to prosocial behavior, such as expression of empathy, willingness to help others, and forgiveness of others (McCullough et al., 2002). Emmons and McCullough (2003) define gratitude as an emotional response to a gift or benefit from another person. For instance, an individual might react intrinsically with gratitude (as an emotion or feeling) when she receives concrete advice from someone, accepts sympathy from someone, or talks with someone about how she is feeling (Emmons & McCullough,

2003). Similarly, gratitude has been defined as the appreciation experienced by individuals when someone does something kind or helpful for them (Froh, Fan et al., 2011) as well as a person's reaction upon receiving a benefit from another person's intentional action (Algoe, Haidt, & Gable, 2008). These definitions emphasize the beneficiary's response, rather than that of the benefactor. In these cases, a person would often outwardly express his or her gratitude upon recognition of another's purposeful benevolent behavior.

Generalized gratitude. Contrasting with a prosocial behavioral conceptualization of the construct, gratitude is also variously considered to be a mood, a moral virtue, a personality trait, a coping response, and a way of life that is mostly an innate reaction (Emmons, 2008). As a personality trait, gratitude is understood in terms of the grateful disposition. This disposition represents a generalized tendency to recognize beneficence and respond with an emotion of gratitude to the actions of other people's benevolence, resulting in positive experiences (McCullough et al., 2002). Gratitude is characterized by Haidt (2003) as a moral emotion that is other-praising and is related to other people's or society's welfare. As an intrinsic value, gratitude can be felt beyond an interpersonal context (e.g., gratitude for a work of art, toward God, or for a scene in nature; Bono et al., 2014). Gratitude that is expressed as a result of an affective trait is considered to produce a stable predisposition toward certain emotional responses and thresholds for those responses (McCullough et al., 2002; Rosenberg, 1998). These scholars hold that gratitude must originate internally before it can be expressed externally.

Theories Explaining Gratitude

Taken together, the conceptualizations defining gratitude can be collapsed into the following theories explaining the development and trajectory of gratitude and related constructs. Extant theories related to the phenomenon of gratitude do not clearly posit an explanation about the origin of gratitude, though various scholars have proposed an array of theories that could explain the nature and consequences of individual differences in levels of gratitude among people. These theories range from considering gratitude to be a personality trait to focusing mostly on behavioral and environmental features of gratitude, much like the definitions presented in the above section. The reader is reminded that the theories are largely dependent upon studies including adult samples, rather than studies including youth and/or adolescent samples.

Affective trait theory of gratitude. One widely accepted theory of gratitude considers it to be an affective trait or a character strength (Gillham et al., 2011; Ma, Kibler, & Sly, 2013; McCullough et al., 2002). Unlike moods, affective traits are "stable predispositions toward certain types of emotional responding" that establish the way(s) an individual responds emotionally to different situations (Rosenberg, 1998, p. 249). McCullough and colleagues (2002) consider gratitude to be relatively trait-like in nature, referring to the affective trait of gratitude as the "grateful disposition" or "disposition toward gratitude" (p. 112), which reduces the threshold for recognizing and responding with gratitude after experiencing an act of benevolence.

McCullough and colleagues' (2002) grateful disposition consists of four facets: intensity, frequency, span, and density. A dispositionally grateful person will likely feel more intensely grateful than a person who is less disposed toward gratitude. Additionally, one who is dispositionally grateful will likely report feeling grateful more frequently

during the day, and gratitude may be easily elicited by simple favors or acts of kindness from a benefactor. Conversely, individuals who are low in dispositional gratitude will report feeling less grateful during the day and will require more substantial favors to elicit gratitude. A dispositionally grateful person has higher rates of life circumstances for which he or she feels grateful at a given time (e.g., feeling simultaneously grateful for family, job, friends, health, life itself, etc.). Finally, the dispositionally grateful person is grateful to a larger number of people for a single positive outcome, attributing a benevolent occurrence to more people than does the person who has a less grateful disposition (McCullough et al., 2002).

Froh and colleagues (2010) indicate that gratitude theories should incorporate attribution theory by recognizing that for gratitude to be experienced after a positive outcome has been obtained, the individual must attribute the happiness caused by this outcome to an external source, and label this happiness as gratitude. This process may become habitual as a person increasingly engages in these behaviors over time, but the beginning behaviors are first extrinsically and then, through habit and practice, intrinsically motivated by a personality trait. This evolution results in tending individuals toward specific reactions to benevolent behaviors, stimulating upward spirals of emotional and social well-being (Froh, et al., 2010). Ergo, while the relationship between the environment and an individual may spark gratitude growth, the maturation of a person's internal appreciation of gratitude is fostered intrinsically. Descriptions of the postulated environmental and personal factors that influence the emergence of this trait are discussed in later sections of this review.

The find-remind-and-bind theory of gratitude. Algoe (2012) developed the find-remind-and-bind theory of gratitude, which proposes that individuals identify beneficial social opportunities within the social environment and react in specific ways that improve relationships, social opportunities, and social benefits. This approach promotes a relational and behavioral focus in the explanation of gratitude. First, an individual must find value in relationships, social opportunities, and benefits. Next, the individual must remind himself or herself of important traits to seek, depending on previous observations. Finally, individuals are bound together in didactic relationships due to their positive interactions (Algoe, 2012). This theory presumes a cognitive-behavioral basis for gratitude. As individuals observe positive effects of gratitude in the lives of others, they mimic the behaviors observed, which increases positive relationships rooted in gratitude expression. The value of gratitude here is largely focused on fostering positive social interactions, which has the potential to promote positive youth development across areas of functioning (Gilman et al., 2008). The find-remind-and-bind theory includes the components of observational learning and reproduction of behaviors with expected benefits. These elements are reflective of Bandura's (1977) social learning theory and are observed in a separate but comparable theory explaining gratitude's development, which is presented below.

The moral paradigm theory of gratitude. A similar relational and behavioral approach to gratitude is that taken by McCullough, Kilpatrick, Emmons, and Larsen (2001). These scholars deem gratitude to be a moral paradigm, considering that gratitude plays three essential roles: that of a moral barometer, that of a moral motive, and that of a moral reinforcer. As a moral paradigm, gratitude is threefold in nature and serves as a

model for the occurrence of altruistic behaviors in a society. Essentially, this theory indicates that individuals learn how to increase altruistic behaviors and levels of gratitude by observing others and recognizing valuable social relationships, partially reflecting the nature of Algoe's (2012) perspective (McCullough et al., 2001).

In the first tier of the model, gratitude acts as a moral barometer by distinguishing more valuable moral relationships from those that may be less valuable. This tier showcases the pressure of society to act in a specific manner, given benevolence from one person to another. For example, it is traditionally appropriate to say, "thank you" upon receiving a gift in a number of cultures. The expression of gratitude is also often deemed fitting when a benefactor provides a favor or kind act for a beneficiary (e.g., holding a door open or stopping to converse briefly). The responses are posited to have been created via the characteristics of gratitude reflected in the moral barometer level of the moral paradigm model (McCullough et al., 2001). When individuals believe that a specific reaction is merited in response to certain occurrences, they often abide by these norms.

The second tier of the model of gratitude as a moral paradigm is that of a moral motive or moral motivator. In both youth and adults, gratitude has been identified as a moral barometer *and* as a moral motive (Bono et al., 2014). As a moral motive, the expression of gratitude is suggested to produce prosocial behavior. Acts of benevolence, such as the giving of gifts or engagement in altruistic behaviors, often result in a response of thanks from the beneficiary to the benefactor. This expression of gratitude can manifest in a variety of forms, but the inclusion of this communication is the basis upon which gratitude acts as a moral motive. Viewing gratitude as a moral motive denotes that

gratitude will increase the likelihood that the benefactor will act kindly again in the future. The benefactor, therefore, is motivated to respond altruistically in future similar situations. Considering gratitude to partially represent a moral motive supports the concept that expressions of appreciation continually increase future prosocial acts (McCullough et al., 2001).

The final tier of the model of gratitude as a moral paradigm is that of moral reinforcer. As a moral reinforcer, gratitude increases prosocial behavior by motivating the beneficiary to respond altruistically in the future. In other words, when a beneficiary expresses gratitude in response to a benefit, she can see how the benefactor is reinforced for her benevolent behavior. The benefactor, then, acts as a model for the beneficiary, who is more likely to enact such benevolence in the future (McCullough et al., 2001). It is possible that this is true mostly because individuals find expressions of gratitude and other types of approval to be highly reinforcing (Eisenberg, Miller, Shell, McNalley, & Shea, 1991). Even so, ingratitude is considered to be aversive for benefactors and beneficiaries, leading them to decrease acts of benevolence after engaging in prosocial behavior and not experiencing gratitude from as a result of the interaction. While the motive underlying gratitude does not always co-occur with the expression of gratitude, the actual expression of thanks or appreciation seems to continually motivate beneficiaries to behave similarly in the future (McCullough et al., 2001).

Theories of gratitude indicate that the construct may either evolve via interactions in an individual's environment or may develop as the result of a naturally occurring predisposition. Various affective trait theories of gratitude posit that feelings or demonstrations of gratitude are results of a predisposition to feel or respond in a grateful

manner. From these perspectives, gratitude is fostered intrinsically, and the environment simply sparks individual growth of an already present factor (e.g., Froh et al., 2010; McCullough et al., 2002; Rosenberg, 1998). Conversely, the find-remind-and-bind (Algoe, 2012) and moral paradigm (McCullough et al., 2001) theories of gratitude suggest that gratitude expression is fostered by an individual's interaction with his or her environment. These theories of gratitude reflect Bandura's (1977) social learning theory, though the moral paradigm theory breaks down social learning components into three tiers: gratitude as a moral barometer, motivator, and reinforcer (McCullough et al., 2001). Taken together, the latter two theories seem most consistent with one another and will be used as the basis for further discussion of the gratitude construct in the present paper.

Presumed Consequences of Gratitude

Research regarding the antecedents and consequences of individual differences in trait gratitude in children and adolescents has been limited to date. Nevertheless, a body of literature is accumulating, supporting the importance of the construct. In this section, studies of the presumed consequences of differences among children's and adolescents' levels of both state and trait gratitude are summarized. Many of the studies of the consequences of gratitude focus on psychosocial, psychological, and academic outcomes. These studies are discussed in the following section.

Psychosocial. In cross-sectional, longitudinal, and experimental studies, gratitude has been correlated with and predictive of higher levels of prosocial behaviors. The participants included in these studies extend across ages 4 years through early adulthood, demonstrating the generalizability of the findings across this age range. The relations

between gratitude and several psychosocial variables have specifically been investigated in youth and adolescents.

Social relationships, social interactions, and gratitude. In a study composed of elementary school students, gratitude was investigated by observing beneficiaries' reactions to short vignettes (consisting of scenarios in which a child received either a satisfactory or an unsatisfactory gift from an adult) as a consequence of differences in empathy among the students. Results also indicated that gratitude predicted both giver effort for undesirable gifts (such as a melted ice cream cone or a trip to a closed bowling alley) and ratings regarding how much the individual enjoyed the gift he or she received (i.e., the desirability of the gifts; Poelker & Kuebli, 2014). In a sample of middle school students of ages 11 to 13 years, Froh, Yurkewicz, and Kashdan (2009) examined the cross-sectional interplay of several variables, including gratitude and social relationships. In this study, the construct of relational fulfillment (a composite of family satisfaction, friend satisfaction, family support, and friend support) was included as a mediator of gratitude and physical symptoms. Results showed that gratitude related positively to relational fulfillment ($\beta = .33$).

In a sample of African American adolescents (ages 12 to 14 years), the relationship between gratitude and family relationships was assessed. These scholars conceptualized gratitude using the Values in Action (VIA) Inventory of Strengths, which separates gratitude into two constructs: life-orientation gratitude and moral affect gratitude. Results indicated that both constructs were related to positive family relationships (Ma et al., 2013).

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Prosocial behaviors and gratitude. In an investigation of Chinese children (grades 4 to 6), Tian, Du, and Huebner (2015) found a statistically significant relationship between gratitude and prosocial behavior for both boys ($r = .29$), and girls ($r = .23$). Additionally, gratitude predicted higher levels of prosocial behavior in a cross-sectional mediation model design (Tian et al., 2015). Furthermore, in a sample of older Chinese adolescents (mean age of 18.10 years), Li and Chow (2015) examined whether value orientations and dispositional gratitude mediated the relations between religiosity and spirituality on prosocial behaviors among adolescents. The findings of this study supported the hypothesis that gratitude mediated the relationship between spirituality and self-reported peer-helping behaviors ($\beta = .08$; Li & Chow, 2015). These authors' findings, thus, suggested that prosocial behaviors are inspired by gratitude in samples of Chinese adolescents.

Social integration and gratitude. Research with a sample of middle school students of ages 10 to 14 years has also been conducted to investigate whether gratitude is longitudinally related to social integration, which is considered an indicator of psychological and social well-being. Froh and colleagues (2010) conceptualize social integration as motivation to use one's strengths to help others and feel connected to their communities. This study specifically examined whether gratitude and social integration serially enhance one another. Gratitude at Time 1 was related to prosocial behavior at Time 2 ($r = .30$), social integration at Time 1 ($r = .49$), life satisfaction at Time 2 ($r = .30$), and social integration at Time 3 ($r = .45$). After controlling for various factors, the effect of gratitude on social integration was mediated by prosocial behavior and life satisfaction. Similarly, after controlling for various factors, the effect of social integration

on gratitude was mediated by prosocial behavior and life satisfaction. Because gratitude and social integration were bidirectionally related in this study, gratitude and social integration appear to mutually build on one another (Froh et al., 2010).

Froh, Emmons, Card, Bono, and Wilson (2011) also conducted a cross-sectional study with high school students of ages 14 to 19 years to determine whether gratitude related positively to social integration. Their results indicated that social integration was statistically significantly correlated with gratitude ($r = .76$).

In sum, the existing studies suggest a robust association between gratitude and multiple psychosocial variables, including prosocial behavior and social integration in youth and adolescents across ages. Because gratitude seems to promote production and maintenance of positive social ties, it has been considered a "prime candidate" for improving students' school satisfaction and the quality of their peer relationships (Bono et al., 2014, p. 70). Higher levels of gratitude may thus be especially important as students enter into high school, when autonomy becomes more important and students are generally less dependent on family members for social support (Hill & Holmbeck, 1986).

Psychological. Gratitude has been incorporated into several studies with youth and adolescents involving various psychological factors. Results from such studies are presented below.

Subjective well-being and gratitude. The extant gratitude literature tends toward acceptance of a tripartite definition of subjective well-being (SWB; e.g., Froh et al., 2008; Froh, Yurkewicz et al. 2009). This definition poses that SWB is comprised of three

components: life satisfaction, positive affect, and negative affect (Diener, Suh, Lucas, & Smith, 1999). The tripartite definition of SWB will be utilized in the current paper, and findings in current gratitude literature are presented using this definition.

Life satisfaction and gratitude. Gratitude has been incorporated into studies assessing younger students' (ages 9 to 11 years) relations of gratitude and life satisfaction to those of their parents. Hoy, Suldo, and Mendez (2012) found that mothers' gratitude was significantly correlated with their children's gratitude ($r = .23$), and mothers' life satisfaction was also significantly related to children's gratitude ($r = .18$). Although fathers' gratitude was not related to children's gratitude, fathers' life satisfaction was correlated with children's gratitude ($r = .22$).

Regarding older children, Froh and colleagues (2008) conducted an experimental investigation with middle school students in grades 6 and 7 to determine whether a gratitude induction (i.e., counting blessings) was related to greater subjective well-being and appreciation toward aid when compared to participants who either were asked to focus on hassles or received no treatment, serving as controls. Results indicated that students in the gratitude condition reported greater gratitude and noted greater life satisfaction in the past few weeks compared to students in the hassles (but not the control) condition during the post-test. Additionally, grateful emotions in response to aid were uniquely related to several aspects of life satisfaction at post-tests; these emotions were also noted to mediate the relationship between the gratitude intervention condition and subsequent general gratitude (Froh et al., 2008).

In a separate study of middle school students (ages 11 to 13 years), Froh, Yurkewicz, and colleagues (2009) investigated relations between gratitude and various domains of life satisfaction. They obtained the following correlations between gratitude and five domains: family satisfaction ($r = .33$), friend satisfaction ($r = .23$), school satisfaction ($r = .30$), community satisfaction ($r = .22$), global life satisfaction ($r = .37$). Froh, Fan et al., (2011) also found statistically significant relations between results on the Gratitude Questionnaire-6 (GQ-6) and life satisfaction ($r = .46$ to $.59$) in students ranging in age from 10 to 16 years old. Additionally, positive correlations between gratitude and overall life satisfaction have been reported in samples of US high school students (Froh, Emmons et al., 2011) and students of ages 10 to 17 years in Hong Kong (Chan, 2012).

Affect and gratitude. Froh, Yurkewicz, and colleagues (2009) reported a statistically significant positive relationship between gratitude and positive affect ($r = .67$) in a sample of middle school students, which is consistent with the findings of other studies (e.g., Froh et al., 2008). In their study of gratitude induction in middle school students, Froh and colleagues (2008) found that grateful emotions in response to aid were uniquely related to positive affect. In a separate study of middle school students, Froh, Fan, and colleagues, (2011) observed that gratitude, as measured by the GQ-6, was related in expected ways to positive affect ($r = .28$ to $.44$) and negative affect ($r = -.21$ to $-.35$).

Froh, Kashdan, and colleagues (2009) also used a gratitude induction procedure to determine whether secondary school students in the gratitude condition who reported low positive affect would report higher levels of gratitude and positive affect at a later time point. The gratitude induction procedure required the students to write a letter of gratitude

to a deserving individual. This study also investigated whether increases in positive affect and gratitude were maintained at one-month and two-month follow-ups, favoring those in the gratitude condition with low positive affect. Finally, the researchers examined whether students in the gratitude condition who reported low levels of positive affect would report less negative affect at the follow up times when compared with the control group. Regarding gratitude, results indicated that there were no significant differences in gratitude, positive affect, or negative affect across grades (3, 8, and 12) or conditions. However, it was noted that positive affect moderated the effect of the gratitude intervention on well-being. Students low in positive affect at Time 1 who received the gratitude intervention reported higher gratitude at Time 2, higher positive affect at Time 2, and higher positive affect at Time 4 compared with those low in positive affect at Time 1 who participated in the control condition (Froh, Kashdan, et al., 2009).

Hope, optimism, self-esteem, and gratitude. In two separate samples of adolescents, the relationship between gratitude and hope has been investigated. Firstly, gratitude significantly predicted hope and a sense of meaning four years after initial data collection occurred in high school students (Bono, Froh, & Emmons, 2012). Additionally, students' gratitude and hope have been related to the gratitude and hope of their parents in present literature. In younger students (ages 9 to 11 years), mothers' ($r = .24$) and fathers' ($r = .19$) reported levels of gratitude were correlated with their children's reported levels of hope (Hoy et al., 2012). Furthermore, Froh, Yurkewicz, and colleagues (2009) observed a statistically significant positive association between gratitude and optimism ($r = .35$) in their study of American middle school students (ages 11 to 13 years), while Li, Zhang, Li, Li, and Ye (2012) observed a statistically significant, positive

association between gratitude and self-esteem (β = .17) in Chinese middle school students.

    Mental health problems, physical symptoms, and gratitude. Results from Li and colleagues' (2012) investigation of gratitude, stressful life events, and negative outcomes surrounding suicide indicated that gratitude predicted both suicidal ideation and suicide attempts. For adolescents who reported a low incidence of stressful life events, increased gratitude demonstrated buffering effects on their suicidal ideation and suicide attempts because of an increase in self-esteem. However, increased gratitude had smaller effects on students who experienced high levels of stressful life events during the year prior to the data collection. Namely, gratitude was observed as having protective qualities in adolescents who did not experience frequent stressful life events in the infrequent event that those adolescents *did* experience stressful life events (Li et al., 2012).

    Gillham and colleagues (2011) studied the longitudinal impact of character strengths (including gratitude) on several psychological aspects of adolescents in high school. Findings indicated that adolescents who reported higher levels of temperance and other-directed strengths (the category under which gratitude falls) at the beginning of ninth grade reported fewer depressive symptoms through tenth grade while other character strengths did not predict these depressive symptoms (Gillham et al., 2011).

    Another sample of high school students (ages 14 to 19 years) was examined to determine whether materialism negatively predicted outcomes and whether gratitude positively predicted life satisfaction and negatively predicted depression and envy over a "fall" to "spring" time span. Materialism (r = -.34), envy (r = -.35), depression (r = -.43),

and life satisfaction ($r = .69$) were related to gratitude in expected ways. Additionally, when controlling for materialism, gratitude uniquely predicted higher life satisfaction and lower envy and depression (Froh, Emmons et al., 2011).

Additionally, in a sample of African American students (ages 12 to 14), risk behaviors related to gratitude were examined. In their results, higher levels of life-orientation gratitude were associated with lower risk on each risk behavior assessed (including sexual activities and use of drugs and/or alcohol; Ma et al., 2013).

Finally, the aforementioned study by Froh, Yurkewicz, and colleagues (2009) included a sample of middle school students of ages 11 to 13 years. Results from this study showed that gratitude had an effect on physical symptoms (such as headaches, stomach aches, chest pain, sore throat, etc.; $\beta = .16$), but this relationship was only significant when controlling for relational fulfillment. Furthermore, the relationship between gratitude and physical symptoms was mediated by relational fulfillment (Froh, Yurkewicz, et al., 2009). Thus, taken together with previous studies, these findings suggest that lower levels of gratitude may be a precursor of both mental and physical health problems.

Psychological variables in athletes and gratitude. Various research has been conducted to explore the nature of gratitude specifically in athletes. One such study included Taiwanese senior high school athletes (ages 15 to 18 years) and results indicated that dispositional gratitude was positively related to team satisfaction ($r = .43$) and life satisfaction ($r = .30$) and negatively related to reduced sense of accomplishment ($r = -.32$) and devaluation ($r = -.31$). Dispositional gratitude also positively predicted team

satisfaction (β = .43) and life satisfaction (β = .30) and negatively predicted a reduced sense of accomplishment (β = -.32), devaluation (β = -.31), and emotional and physical exhaustion (β = -.17; Chen & Kee, 2008). Another study involving Taiwanese adolescent athletes investigated why athletes' dispositional gratitude has an impact on their well-being. These findings indicated a positive effect of gratitude on perceived coach support (β = 51), teammate support (β = .50), and team satisfaction (β = .17). Additionally, both perceived coach support and perceived teammate support mediated the effects on the relationship between gratitude and team satisfaction (Chen, 2013).

In sum, the literature reveals meaningful relations between gratitude and a variety of psychological constructs, such as SWB, hope, optimism, depression, and physical health reports. As would be expected, indicators of positive mental health tend to have a positive relationship with gratitude whereas indicators of mental illness tend to have a negative relationship with gratitude. Though causal studies are limited in this area, gratitude has been supported in having buffering effects on negative life outcomes (such as suicidal ideation) when faced with challenging life events, indicating that the presence of gratitude precedes positive life outcomes after experiences of stressful life events in certain adolescents who only experience these events infrequently.

Academic. Few studies have investigated the relations between gratitude and academic variables. In a study by Tian and colleagues (2015), Chinese boys (grades 4 to 6 years) showed statistically significant relationships between gratitude and school satisfaction (r = .38) and positive affect in school (r = .27). In girls, statistically significant relations were shown between gratitude and school satisfaction (r = .38),

positive affect in school (r = .34), and negative affect in school (r = -.14). Additionally, gratitude predicted school satisfaction and positive affect in school (Tian et al., 2015).

In the sample of African American adolescents (ages 12 to 14 years) mentioned previously, the relationships between gratitude and both protective and risk factors were assessed. In the results, moral affect gratitude was the only variable that was related to academic interest in typical school subjects (e.g., math or English), academic performance (the average of each participant's most recent report card grades in math and English), and participation in extra-curricular activities (Ma et al., 2013).

Froh, Emmons, and colleagues (2011) examined high school students (ages 14 to 19 years) and found that both grade point average (GPA; r = .28) and absorption (described as engagement in a task or feelings of being "in the zone" during a task; r = .34) were related to gratitude. Additionally, when controlling for materialism, gratitude uniquely predicted higher GPA and absorption, which is similar to results presented in Ma and colleagues' (2013) findings.

Although research relating gratitude to academic outcomes is quite scarce, the findings suggest meaningful relations between gratitude and several important academic outcomes. Even so, it is important to consider not only the presumed consequences of gratitude, but also the presumed antecedents of gratitude. Present research indicating factors that may precede development of individual differences in gratitude in children and adolescents is presented in the following section.

Presumed Antecedents of Gratitude

Presumed personal antecedents. Research regarding the potential antecedents of gratitude is limited in the extant literature. In elementary school students, Poelker and Kuebli (2014) investigated gratitude as a consequence of empathy regarding reactions to short vignettes. Findings reflected empathetic reactions from the participants when children in the stories had strong feelings regarding both the likability of gifts and effort on the part of the gift giver. Additionally, likability (i.e., whether the vignette told of a child who received either a desirable or undesirable gift) predicted gratitude. Higher likability ratings for the desirable gifts predicted higher levels of gratitude, and lower likability ratings predicted lower levels of gratitude (Poelker & Kuebli, 2014). This is the only study of this nature reported currently in the literature.

Several studies have been conducted that relate gratitude to religion in one aspect or another in adults; though only one study involved adolescents. Recently, gratitude has been investigated as a dependent variable, derived indirectly from the interactions of Chinese adolescents (ages 15 to 21 years) with religious mentors. In this study, religious mentors' influence on gratitude was mediated through psychological (i.e., self-esteem) and religious (i.e., understanding of Christianity and spirituality) routes (Li & Chow, 2015).

In a sample of Taiwanese athletes with a mean age of 16.14 years (SD = .79 years), gratitude was investigated along with athletes' senses of accomplishment. Results suggested a negative relationship between dispositional gratitude at Time 2 and sense of accomplishment ($r = -.46$), sport devaluation ($r = -.42$), and emotional/physical exhaustion ($r = -.25$) at Time 1, all of which are components of athlete burnout. Also, a

significant inverse association was shown between gratitude and age (β = -.14),

suggesting that gratitude decreases with adolescents' age (Chen & Chang, 2014).

Presumed environmental antecedents. The majority of research relating

gratitude to stressful life events in children and adolescents has been conducted in

countries outside the United States. In China, for instance, adolescent survivors (ages 12

to 20 years) of the Wenchuan earthquake were assessed to examine the relationship

between gratitude, deliberate rumination, and posttraumatic growth (PTG; a construct of

positive psychological change). Results indicated that gratitude at Time 1 predicted PTG

at Time 2, gratitude at Time 2 predicted PTG at Time 3, and gratitude at Time 1 predicted

PTG at Time 3. PTG, though, did not predict gratitude at any time points. Gratitude at

Time 1 predicted deliberate rumination at Time 2 but not at Time 3 (Zhou & Wu, 2015).

Thus, gratitude is supported as a potential mechanism through which adolescents might

positively change their perceptions of negative situations, developing their skills in

responding positively to stressful life events in a manner reflective of Fredrickson's

(2001) broaden-and-build theory of positive emotions.

Isreal-Cohen, Uzefovsky, Kashy-Rosenbaum, and Kaplan (2015) worked with

Israeli adolescents from a low to middle socioeconomic status (SES) area under a missile

attack two and a half years prior to their study. Because gratitude has previously been

found as a buffer against negative effects of stressful life events (e.g., Kashdan, Uswatte,

& Julian, 2006; Lies, Mellor, & Hong, 2014; Zheng, Fan, & Lou, 2011; PTSD symptoms

in this study), these researchers sought to investigate whether or not those buffering

effects were mediated by positive affect, negative affect, and life satisfaction in this

population. When these three mediating variables were included in the equation, the

relationship between gratitude and PTSD symptoms was no longer significant (Isreal-Cohen et al., 2015). Thus, it is possible that gratitude's potential to buffer against negative effects of stressful life events is actually directed by the mediating variables of positive affect, negative affect, and life satisfaction.

There is also support for an influence of social integration on gratitude, though this relationship is defined as being transactional, rather than explicitly unidirectional in adolescents of ages 12 to 14 years (Froh et al., 2010). Gratitude is surmised to be especially influential in positive social relationships (Poelker & Kuebli, 2014; Froh, Yurkewicz et al., 2009; Froh et al., 2010; Froh, Emmons et al., 2011). The nature of the present research base, though, focuses largely on improved social relations as consequences of gratitude.

Demographic Findings in Adolescents

Gender. A few reports also include findings regarding gender differences in the levels of gratitude among youth and adolescent. In a study investigating gratitude and subjective well-being in middle school students of ages 11 to 13 years, girls reported slightly elevated levels of gratitude compared to boys (Froh, Yurkewicz, et al., 2009). Several reports support these results, indicating that students from various countries (such as Hong Kong, and the United States) and in a wide range of ages (5 to 17 years) demonstrate gender differences in reported levels of gratitude, indicating that girls tend to express higher mean levels of gratitude than boys, especially when considering social relations as opposed to material objects (e.g., Chan, 2012; Gordon, Musher-Eizenman, Holub, & Dalrymple, 2004). Tian and colleagues (2015) also found that females ($M = 4.81$) reported significantly higher gratitude than males ($M = 4.48$).

Age. Only one study has addressed age effects related to gratitude in youth and adolescents. Froh, Kashdan, and colleagues' (2009) results indicated that non-significant differences in gratitude across grades (3, 8, and 12), and Froh, Emmons, and colleagues (2011) also indicated no differences in gratitude across adolescents of ages 14 to 19 years. Additional reports are unavailable, providing little understanding regarding the relation between age and gratitude.

Race, ethnicity, and SES. No studies have addressed the relations between race, ethnicity, or SES in youth.

Summary and Critique of Literature

Trait gratitude development is thought to appear as early as age 8 (Froh et al., 2014) and can play an integral role in identity development (Bono et al., 2014). Research involving gratitude in youth and adolescents has only recently emerged in the literature, and the results presented are limited in their generalizability given the nature of the samples and lack of breadth in subject matter, among other concerns. The review concludes with a summary and critique of existing literature, followed by a discussion of the specific research questions and hypotheses suggested by the review.

The research to date with youth and adolescents has focused primarily on assessing the consequences of individual differences in gratitude. The extant findings support the notion that gratitude is related to various positive psychosocial, psychological, school-related, and physical health-related outcomes (see Bono et al., 2014). Specifically, individual differences in gratitude show positive relations with a

number of psychosocial factors in adolescents, such as relational fulfillment (Froh, Yurkewicz et al., 2009), prosocial behavior, and social integration (Froh et al., 2010), suggesting that gratitude plays a role in the production and maintenance of social ties. Furthermore, gratitude is associated with multiple psychological variables. For instance, gratitude has shown positive relations with life satisfaction, hope (e.g., Hoy et al., 2012), positive affect (e.g., Froh, Yurkewicz et al., 2009), and self-esteem (Li et al., 2012). Conversely, gratitude has shown negative relations with negative affect (e.g., Froh, Yurkewicz et al., 2009), depressive symptoms (e.g., Gillham et al., 2011), and materialism (e.g., Froh, Emmons et al., 2011) Additionally, gratitude appears associated with important school-related factors such as GPA (Froh, Emmons et al., 2011; Ma et al., 2013), academic interest (Ma et al., 2013), and positive and negative affect in school (Tian et al., 2015). Finally, gratitude is negatively related to physical symptoms, such as headaches, stomachaches, chest pain, and a sore throat (Froh, Yurkewicz et al., 2009). It seems apparent, then, that expanding the gratitude literature as it relates to youth and adolescents would be quite beneficial for advancement of the field.

In contrast to studies of the consequences of individual differences in gratitude among youth and adolescents, studies of the presumed antecedents of individual differences in youth gratitude have been sparse, especially in relation to the studies of consequences. Nevertheless, the extant literature suggests several personal factors and environmental factors that may be involved in the development of individual differences. These possible personal factors include personality variables, such as extraversion and neuroticism, and environmental variables such as social support and stressful life events.

More specifically, the nature of the relations between personality characteristics and gratitude has been minimally addressed in the present literature. In adults, gratitude has been positively related to extraversion and inversely related to neuroticism suggesting the importance of biologically-based personality determinants of gratitude in adults (e.g., McCullough, Tsang, & Emmons, 2004; Wood, Joseph, & Maltby 2008; Wood, Joseph, & Maltby, 2009). Studies with youth and adolescents seems warranted given the robust associations between personality variables and a variety of related positive psychology variables, such as hope (Otis, Huebner, & Hills, 2016) and life satisfaction (e.g., Fogle, Huebner, & Laughlin, 2002; Heaven, 1989) in children.

Regarding social support, gratitude is surmised to have relations with adolescents' positive social relationships (Poelker & Kuebli, 2014; Froh, Yurkewicz et al., 2009; Froh et al., 2010; Froh, Emmons et al., 2011), though the directionality of this relation is unclear. Given that Froh and colleagues (2010) found a bidirectional relationship between social support and gratitude, though, it seems fitting to include social support as a potentially important antecedent of individual differences in future studies of the origins of gratitude in youth and adolescents.

The occurrence of major stressful life events has also been implicated as a potential key antecedent of gratitude differences in children. Some research has suggested that gratitude serves as a buffer against the negative impact of stressful life events for some students (Li et al., 2012; Isreal-Cohen et al., 2015), although this buffering effect was not observed for students who experience multiple stressful life events. One study has also suggested that gratitude is a reinforcer of positive growth after stressful life events (Zhou & Wu, 2015).

In sum, there is a great lack of research regarding the personal and environmental antecedents of gratitude differences, especially in youth and adolescents. Further investigation seemed warranted to address the potential relationships surrounding stressful life events, psychosocial variables, and personality related to gratitude in youth and adolescents.

The Current Study

The present exploratory study aimed to address the gap in the literature related to understanding the origins of individual differences in gratitude among adolescents by simultaneously exploring several possible antecedents of trait gratitude among middle school students. Lacking a theoretical model of the origins of gratitude, I investigated the effects of several previously examined variables across studies of children and adults in an exploratory fashion. Based on the literature, these variables represented potential individual and environmental antecedents of gratitude in early adolescents. Given the extant database, I examined two major personality variables (extraversion and neuroticism), one chronic environmental variable (social support), and one acute environmental variable (i.e., occurrence of stressful life events). In the present study, personality was represented by the Big Five domains of neuroticism and extraversion largely because these domains of the Big Five personality model have robust support throughout the literature with inclusion in all of the major three- and five-factor models of personality (McAdams, 2009; Zuckerman, 1994).

This exploratory study examined the relations between trait gratitude and a variety of potential antecedent conditions. Based on studies of children and adults, the

following research questions (and associated hypotheses) were addressed in a sample of early adolescent students:

1. What are the relations between gratitude and key demographic variables (gender, grade, ethnicity, and SES)?

2. When controlling for key demographic variables, what is the relationship between gratitude and the personality characteristic of extraversion? Specifically, it was hypothesized that gratitude would be positively related to extraversion.

3. When controlling for key demographic variables, what is the relationship between gratitude and the personality characteristic of neuroticism? Specifically, it was hypothesized that gratitude would be negatively related to neuroticism.

4. When controlling for key demographic variables, what are the relationships between gratitude and social support from parents, peers, and teachers? It was hypothesized that gratitude would be positively related to social support from parents, peers, and teachers.

5. When controlling for key demographic variables, what is the relationship between gratitude and the occurrence of major stressful life events? It was hypothesized that gratitude would be inversely related to the occurrence of major stressful life events.

6. Does the occurrence of major stressful life events add statistically significant variance beyond the temporally precedent personality variables (extraversion and neuroticism) and social support (parents, peers, and teachers) to the explanation of gratitude differences? It was hypothesized that gratitude would be inversely related to the occurrence of major

stressful life events above and beyond temporally precedent personality variables

(extraversion and neuroticism) and social support (parents, peers, and teachers).

7. Does the presence of social support moderate the relationship between gratitude and

stressful life events? Some research has suggested that gratitude has a robust relation with

psychosocial factors (e.g., Bono et al., 2014). Taken together with the limited support for

a relation between gratitude and stressful life events (e.g., Li et al., 2012; Israel-Cohen et

al., 2015), it was hypothesized that the association between the occurrence of major life

stressors and gratitude would be lower among early adolescents who are high in social

support than among early adolescents who are low in social support.

8. Does the personality trait of neuroticism moderate the relationship between gratitude

and stressful life events? Although speculative, some research has suggested that

emotional stability (i.e., low neuroticism) serves as a buffer against the effects of stressful

life events (e.g., de Beurs, Comijs, Twisk, Sonnenberg, Beekman, & Deeg, 2005). It was

hypothesized that the association between the occurrence of major life stressors and

gratitude would be lower among early adolescents who are low in neuroticism than

among early adolescents who are high in neuroticism.

      This study extended beyond previous studies by investigating a wider array of

possible personal and environmental antecedents of gratitude in early adolescents.

Furthermore, this study investigated possible interrelations among the personal and

environmental variables. By further investigating the antecedents of gratitude in youth

and adolescents, child health professionals may not only develop a deeper understanding

of the development of gratitude in youth, but they may also be able to eventually target

specific individual and environmental factors (e.g., social support) and/or moderators (e.g., personality) to consider in developing empirically-informed programs to promote gratitude in children.

CHAPTER 2

METHOD

Participants

Questionnaires were distributed to students at four middle schools in the Southeastern United States as part of a school-based, school-wide monitoring of school climate, well-being, and engagement by the school administration. The final sample consisted of 1506 students in grades 6 through 8. This sample represented a response rate of approximately 68.45% out of eligible students in the schools of interest. Those students not included in the data collection were either absent from school on one or more of the days when data were collected or did not participate due to unknown extraneous causes. Students ranged in age from 10 to 16 years and were distinguished as African American, Caucasian, Asian American or Pacific Islander, Biracial, or another racial identity. Students were also asked to self-report their gender, grade level, and whether they received free or reduced lunch prices as a proxy for parental SES. The demographic characteristics of the sample are further presented in Table 2.1.

Procedures

Surveys were distributed to all students in four middle schools in the Southeastern United States. The survey reflected a school-based assessment of school climate and student well-being. School teachers administered the surveys in homerooms during October of 2015. School counselors subsequently provided de-identified survey results to the author

for the subsequent data analysis for this research. A total of 27.09% of the students in the four schools were absent on at least one of the days of data collection. Approval for this study was granted from the University of South Carolina Institutional Review Board.

Measures. *Gratitude.* Gratitude was assessed using the Gratitude Questionnaire-6 (GQ-6; McCullough et al., 2002; see Appendix A). This scale is a 6-item measure of trait gratitude based on McCullough and colleagues' (2002) theory that four qualities distinguish people who have a grateful disposition (intensity, frequency, span, and density). In its development, the GQ-6 investigated 39 items the authors believed to encompass these four qualities. However, factor loadings indicated that one large factor explained 27% of the total item variance while ten smaller factors each accounted for no more than 7% of the total item variance. Thus, the six items that loaded strongly on the large factor and assessed unique aspects of the grateful disposition were retained. The GQ-6 has support for internal consistency ($\alpha = .76$ to $.85$ in participants of ages 10 to 19 years), 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 $.57$), and factorial validity using confirmatory factor analyses when used with youth and adolescents (see Froh, Fan et al., 2011). Additionally, the GQ-6 has support for test–retest reliability over a 3-month interval ($r = .59$; Wood, Maltby, Gillett, Linley, & Joseph, 2008). In recent literature, the GQ-6 has been indicated as more effective for measuring gratitude in youth and adolescents when only the first five items were used due to weak factor loadings and the abstract nature of the sixth question on the measure (Froh, Fan et

al., 2011). Formal interviews with adolescents revealed that the sixth item was "difficult to understand" and "very abstract" (Froh, Fan et al., 2011, p. 314). This item was deemed inappropriate for use with children adolescents when developmental level is taken into account; therefore, the present study used only the first five items. Example items are "I have so much to be thankful for," and "I am grateful to a wide variety of people." Participants were asked to respond to these statements using a 7-point Likert scale ranging from "strongly disagree" to "strongly agree."

Extraversion and neuroticism. Extraversion and neuroticism were assessed using the Abbreviated Junior Eysenck Personality Questionnaire (JEPQR-A; Francis, 1996; see Appendix B). The JEPQR-A is an 11-item self-report scale that measures extraversion and neuroticism based on Eysenck's theory of personality. Students responded to items in a "yes; no" format, and higher scores on domains indicated greater levels of extraversion or neuroticism. This scale has support for internal consistency on both the extraversion (α = .66) and neuroticism subscales (α = .70). Concurrent validity is also supported by correlations between the JEPQR-A and the JEPQR-S extraversion (r = .91) and neuroticism (r = .92) scales (Francis, 1996). On the JEPQR-A, three-month test-retest reliabilities of .66 for extraversion and .65 for neuroticism have been reported (Roy, 2012). It should be noted that items on the Abbreviated Junior Eysenck Personality Questionnaire Revised were coded from the original scale such that 1=0 and 2=1 in order to create composite variables.

Social support. Social support was assessed using the Child and Adolescent Social Support Scale (CASSS; Malecki & Demaray, 2002; see Appendix C). The CASSS is a 40-item self-report scale that includes five subscales measuring different potential

sources of social support: Parents (12 items), Teachers (12 items), Classmates (12 items), and Close Friend (4 items). These items measure four types of social support based on Tardy's (1985) model of social support: emotional, informational, appraisal, and instrumental. Participants were asked to respond to items using a 6-point Likert scale ranging from "never" to "always." This scale has support for overall internal consistency ($\alpha = .66$) and also internal consistency on the subscales ($\alpha = .93$ to .96). Convergent validity is also supported by correlations between the CASSS and the Social Support Scale for Children (Harter, 1985; Malecki & Demaray, 2002; $r = .70$). Additionally, construct validity has been supported via positive correlations with adaptive skills, teacher-rated social skills, and self-esteem and negative correlations with internalizing and externalizing problems (Malecki & Demaray, 2002). Test-retest reliability is supported for an 8-week period for both the Total scale ($r = .70$) and the subscales ($r = .60$ to .76). For the purposes of the school survey, the items on the Close Friend subscale were not included.

Stressful life events. Stressful life events were assessed using the Stressful Life Event Scale (SLES; Johnson & McCutcheon, 1980; see Appendix D). The SLES is a 45-item self-report scale in which students indicate whether or not they have experienced specific stressful life events in the past year. The scale includes items referring to both controllable and uncontrollable life events, but the present study will use only the uncontrollable life event items (total of 18 items). This is largely because school administration, teachers, psychologists, and other school professionals cannot otherwise change the occurrences of these stressful life events; rather, they may be able to understand how adolescents will react to them, given additional existing variables.

Students responded to items using "no, it did not happen," "yes, it was good" and "yes, it was bad" answer options so that it is possible to distinguish between stressful life events that cause eustress versus distress. With all items included, Johnson and McCutcheon (1980) reported test-retest reliability coefficients of .69 to .72 over a two-week period. Meaningful associations with measures of locus of control ($r = .21$), trait anxiety ($r = .22$), and depression ($r = .22$) also support concurrent validity. Additionally, discriminant validity is supported via a non-significant correlation with a measure of social desirability (Johnson & McCutcheon, 1980). It should be noted that 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. Brand and Johnson (1982) were the first to utilize the scale in this manner. For events which were indicated as negative, Brand and Johnson (1982) found test-retest correlations of .66 over a two-week period. Additionally, other scholars (e.g., Greene, Walker, Hickson, & Thompson, 1985; Huber, Sifers, Houlihan, & Youngblom, 2012; Ondersma, Lumley, Corlis, & Tojek, 1997; Walker & Greene, 1991) have reported using this scale and have indicated similar results regarding reliability and validity adequate for use with children and adolescents.

Table 2.1 Frequencies for the Demographic Variables

Demographic Variables		*n*	%
Grade	6th	527	28.0
	7th	641	34.1
	8th	689	36.6
Gender	Male	978	52.0
	Female	891	47.3
Race	African American/Black	420	22.3
	Caucasian/White	1026	54.5
	Native American/Indian	31	1.6
	Asian American/Pacific Islander	25	1.3
	Hispanic/Latino	148	7.9
	Biracial	156	8.3
	Other	39	2.1
SES	Regular Lunch	974	51.8
	Free or Reduced Lunch	727	38.6

Note. SES: socioeconomic status

CHAPTER 3

RESULTS

Preliminary Analyses

Before conducting analyses, the data were assessed for possible violations of model assumptions. This examination revealed that missingness across scales ranged from 0% to 7.9%, which can influence results by way of standard errors and significance (Cohen, Cohen, West, & Aiken, 2003). Missing data were managed using multiple imputation, which predicts and replaces any missing values using existing values within the dataset, in R 3.0.3 (Rose & Fraser, 2008). Forty new datasets were created in order to achieve the most realistic dataset, and one dataset was chosen for analysis using a random number generator. All subsequent analyses were conducted using IBM SPSS Statistics for Windows, Version 22.0.

The present dataset consisted of data from four separate schools. To determine appropriateness for collapsing data across schools into one dataset, several preliminary analyses were conducted. The data were examined for clustering within schools. The intraclass correlation (ICC) for gratitude was -.07, suggesting that variance within schools was larger than variance between schools. These findings indicated that clustering across the schools would not downwardly bias the standard errors in the present study, and therefore a multi-level model was not utilized in subsequent analyses. Demographic findings in the present analyses can be found in Table 2.1.

Skewness, kurtosis, histograms, and Q-Q plots were examined to screen for normality

and further violation of model assumptions after multiple imputations were conducted.

The assessments of skewness revealed no statistically problematic features in the dataset,

as the magnitude of skewness for each of the predictor and criterion variables was within

the acceptable range (between -2 and 2; Lomax, 2001). The assessments of kurtosis

revealed possible statistically problematic features in the dataset, as the kurtosis values

for extraversion (2.72) and stressful life events (2.28) exceeded the acceptable range of

between -2 and 2 (Lomax, 2001). However, when these variables were transformed,

correlation coefficients reflecting the association between predictors and the criterion

variable did not significantly differ from correlation coefficients using the original dataset

using logarithmic, $t(5) = -1.02$, $p = .36$, square root, $t(5) = -1.33$, $p = .24$, and inverse

transformations, $t(5) = -.13$, $p = .90$. Because these results indicated satisfactory integrity

within the data set, further analyses were conducted using the original dataset.

Descriptive Statistics

The frequencies of demographic variables for the total sample are presented in Table 2.1,

and the means and standard deviations for the variables are presented in Table 3.1. The

mean for parent social support was 4.69 on a 6-point scale (from 1 to 6), suggesting a

relatively high level of parental support reported by students in this sample. Prior studies

have indicated lower parental support in a diverse sample of seventh and eighth grade

students ($M=3.72$, Rueger, Malecki, & Demaray, 2010). The mean for teacher support

was 4.66 on a 6-point scale (from 1 to 6), suggesting a relatively high level of teacher

support reported by students in this sample. An earlier study indicated lower teacher

support ($M=3.90$, Rueger et al., 2010). The mean for peer support was 4.08 on a 6-point

scale (from 1 to 6), suggesting that peer support, though relatively high, was slightly lower than parent and teacher support reported by students in this sample. A prior study indicated lower peer support (*M*=3.23, Rueger et al., 2010). The mean for extraversion was .80 on a scale ranging from 0 to 1, suggesting relatively high levels of extraversion in the present sample of students. This finding is commensurate with some studies (*M*=.81 and *M*=.85 for males and females, respectively, Francis, 1996; *M*=.82, Otis et al., 2016) but higher than others (*M*=.50; Lyons, Huebner, Hills, & Shinkareva, 2012; *M*=.60 and *M*=.58 for males and females, respectively, Scholte & De Bruyn, 2001). The mean for neuroticism was .48 on a scale ranging from 0 to 1, suggesting relatively low levels of neuroticism in the present sample of students. This finding is commensurate to some studies (*M*=.44 for males, Francis, 1996) and slightly higher than the mean observed in other studies (*M*=.31, Lyons et al., 2012; *M*=.34, Otis et al., 2016). However, additional reports have shown higher means than those presently reported (*M*=.65 for females, Francis, 1996; *M*=.65 and *M*=.67 for males and females, respectively, Scholte & De Bruyn, 2001). The mean for the number of stressful life events experienced by the students was 1.91 out of 18 total possible stressful life events. Compared to other studies, this mean is lower (*M*=4.3, Ondersma et al., 1997; *M*=2.26, Otis et al., 2016; *M*=3.47, Magnus, Diener, Fujita, & Pavot, 1993). See Table 3.1 for descriptive statistics related to the variables of interest.

Data Analysis Plan

To address question 1, a multiple linear regression analysis was conducted to determine which demographic variables to include as covariates in subsequent analyses. For those associations that were statistically significant (*p* < .05), the variables were treated as

covariates in subsequent analyses. Pearson Product Moment Correlations were also computed to examine the zero-order associations among all the variables of interest (extraversion, neuroticism, parent social support, peer social support, teacher social support, frequencies of stressful life events; see Table 3.2).

Subsequently, to address question 2, a Pearson product moment correlation was calculated to assess the association between extraversion and gratitude. To address question 3, a Pearson product moment correlation was calculated to assess the association between neuroticism and gratitude. To address the relations between the personality 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 (extraversion and neuroticism).

To address question 4, Pearson product moment correlations were used to investigate the relations between sources of social support (parent, peer, and teacher) and gratitude. Additionally, a hierarchical multiple regression analysis was used to explain the unique associations between the social support variables and gratitude, after controlling for the demographic and personality variables, by entering the variables in the following order: Step 1 (covariates), Step 2 (extraversion and neuroticism), and Step 3 (social support from parents, peers, and teachers).

To address question 5, a Pearson product moment correlation coefficient was calculated to determine the association between stressful life events and gratitude. To address question 6 (regarding the unique contribution of stressful life events), a hierarchical multiple regression analysis was used to explore gratitude by entering steps

of variables in the following order: Step 1 (covariates), Step 2 (extraversion and neuroticism), Step 3 (social support from parents, peers, and teachers), and Step 4 (stressful life events).

To address question 7, an interaction term was created by multiplying composite variables for social support 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 (extraversion and neuroticism), Step 3 (social support from parents, peers, and teachers), Step 4 (stressful life events), and Step 5 (interaction between social support and stressful life events).

To address question 8, an interaction term was created by multiplying composite variables for neuroticism 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 (extraversion and neuroticism), Step 3 (social support from parents, peers, and teachers), Step 4 (stressful life events), Step 5 (interaction between social support and stressful life events), and Step 6 (interaction between neuroticism and stressful life events).

Correlations

The Pearson product moment correlation coefficient representing the relation between extraversion and gratitude was positive and statistically significant, r (1879) = .21, $p <$ .001. According to Cohen's (1988) criteria for effect sizes, this relation represented a small effect size. The Pearson product moment correlation representing the relation between neuroticism and gratitude was negative, but and also statistically significant, r

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(1878) = -.20, $p < .001$. According to Cohen's (1988) criteria for effect sizes, this relation also represented a small effect size.

Regarding Question 4, Pearson product moment correlation coefficients were calculated in order to identify significant relations between sources of social support and gratitude. Analyses revealed significant positive correlations between gratitude and parent social support, r (1879) = .53, $p < .001$, teacher social support, r (1878) = .35, $p <$ .001, and peer social support, r (1878) = .38, $p < .001$. According to Cohen's (1988) criteria for effect sizes, these relations represented large, moderate, and moderate effect sizes, respectively. Additionally, social support from parents positively related to social support from peers, r (1876) = .51, $p < .001$. Finally, social support from peers was positively related to social support from teachers, r (1875) = .60, $p < .001$. According to Cohen's (1988) criteria for effect sizes, each of these relations represented large effect sizes.

In order to address the zero-order association between the occurrence of stressful life events and gratitude, a Pearson product moment correlation coefficient was calculated. A statistically significant negative correlation was obtained, r (1700) = -.22, p < .001. According to Cohen's (1988) criteria for effect sizes, this relation represented a small effect size.

Multiple Linear Regression Analyses

To control for family-wise error, only one regression analysis was conducted for all research questions for which it was necessary. Regression coefficients from all steps of the regression analysis can be found in Table 3.3. In order to determine which

demographic variables to include as covariates in subsequent analyses, a preliminary simultaneous regression analysis was run including all of the demographic variables as predictors of gratitude. Results indicated that gender, $t(10, 1643) = 2.15$, $p = .03$, $\beta = .05$, SES, $t(10, 1643) = -6.76$, $p < .001$, $\beta = -.18$, and self-identification as Hispanic, $t(10, 1643) = -2.95$, $p < .01$, $\beta = -.08$, were significantly related to gratitude. This step indicated that gender, SES, and identification as a Hispanic student influence students' self reported levels of gratitude. Thus, gender, SES, and Hispanic race were included as covariates in the subsequent analyses.

A hierarchical multiple regression analysis was conducted to assess whether environmental factors (i.e., social support and stressful life events) accounted for significant incremental variance in gratitude reports beyond the variance accounted for by personality factors (i.e., extraversion and neuroticism). To account for the contribution of extraversion and neuroticism to individual differences in gratitude, after controlling for key demographic variables, a multiple linear regression analysis was conducted. To control for the key demographics previously determined as covariates with gratitude (SES, gender, and race), 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 gratitude and the personality characteristics of extraversion and neuroticism. Specifically, gratitude was uniquely (positively) related to extraversion (β=.26) and neuroticism (β =-.27), and together accounted for an additional 11% of the total variance, $F(4, 1501) = 46.89$, $p < .001$, R^2 *change* = .11.

The third step of the multiple regression analysis addressed the contribution of the social support variables to gratitude differences, after controlling for demographic and

personality variables. The results indicated that parent and teacher social support, but not peer social support was uniquely related independently to gratitude. Cumulatively, gratitude was positively related to social support, $F(9, 1496) = 89.47$, $p < .001$, R^2 *change* $= .19$, accounting for a statistically significant increment (i.e., 19%) in the total variance.

The fourth step of the regression equation assessed the unique contribution of the occurrence of major stressful life events to gratitude differences. The results revealed that the occurrence of major stressful life events was uniquely (negatively) related to gratitude, $F(10, 1495) = 81.73$, $p < .001$, R^2 *change*$= .004$. The occurrence of major stressful life events added statistically significant variance beyond the temporally precedent personality variables (extraversion and neuroticism) and social support (parents, peers, and teachers) to the explanation of gratitude differences.

The fifth step of the multiple linear regression analysis addressed Question 7 and assessed whether the presence of social support moderated the relationship between gratitude and stressful life events. An interaction term was created to represent the interaction between stressful life events and total social support by multiplying the two terms together. This term was then added to the regression model. Although the overall model was statistically significant, $F(11, 1494) = 74.50$, $p < .001$, step 5 did not add statistically significant incremental variance over the previous steps $F(11, 1494) = 1.83$, $p = .20$, R^2 *change*$= .001$.

To address Question 8, a sixth step of the multiple linear regression analysis was added to assess whether the personality trait of neuroticism moderated the relationship between gratitude and stressful life events. An interaction term was created to represent

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the interaction between personality 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, $F(12, 1493) = 68.30$, $p < .001$, the added variance in the overall model

due to this step was not statistically significant, $F(12, 1493) = 1.04$, $p = .31$, R^2 *change* <

.001.

Table 3.1 Descriptive Statistics

Variables	*M*	*SD*
Gratitude	5.80	1.19
Parent Social Support	4.69	1.19
Teacher Social Support	4.66	1.23
Peer Social Support	4.08	1.37
Extraversion	.80	.35
Neuroticism	.48	.41
Stressful Life Events	1.91	2.22

Note. N = 1506

Table 3.2 Intercorrelations Among Variables

Variables	1	2	3	4	5	6	7
1. G	-						
2. PaSS	.53**	-					
3. TSS	.35**	.50**	-				
4. PeSS	.38**	.51**	.59**	-			
5. EX	.21**	.13**	.06*	.19**	-		
6. N	-.20**	-.24**	-.13**	-.21**	.23**	-	
7. SLE	-.22**	-.26**	-.13**	-.15**	-.06**	.21**	-

Note. G: Gratitude; PaSS: Parent Social Support; TSS: Teacher Social Support; PeSS: Peer Social Support; EX: Extraversion; N: Neuroticism; SLE: Stressful Life Events

* *p* < .05; ** *p* < .01

Table 3.3 Hierarchical Multiple Regression Results

	Step 1			Step 2		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Gender	.12	.06	.05*	.26	.06	.11**
Socioeconomic status	-.43	.06	-.18**	-.37	.06	-.16**
Race: Hispanic	-.34	.11	-.08**	-.30	.10	-.07**
Extraversion				.92	.08	.26**
Neuroticism				-.81	.07	-.27**
Parent social support						
Teacher social support						
Peer social support						
Stressful life events						
Social support x stressful life events						
Neuroticism x stressful life events						
R^2		.05			.16	
F for change in R^2		18.38**			99.11**	

*p < .05. **p < .01.

Table 3.3 Continued Hierarchical Multiple Regression Results

Variable	Step 3			Step 4		
	B	*SE B*	*β*	*B*	*SE B*	*β*
Gender	.21	.05	.09**	.21	.05	.09**
Socioeconomic status	-.25	.05	-.11**	-.24	.05	-.10**
Race: Hispanic	-.27	.09	-.06**	-.30	.09	-.07**
Extraversion	.58	.08	.17**	.57	.08	.16**
Neuroticism	-.41	.07	-.14**	-.38	.07	-.13**
Parent social support	.38	.03	.38**	.37	.03	.37**
Teacher social support	.09	.03	.10**	.09	.03	.09**
Peer social support	.05	.02	.05	.05	.02	.05
Stressful life events				-.03	.01	-.06**
Social support x stressful life events						
Neuroticism x stressful life events						
R^2		.35			.35	
F for change in R^2		147.19**			8.18**	

*$p < .05$. **$p < .01$.

Table 3.3 Continued Hierarchical Multiple Regression Results

Variable	Step 5			Step 6		
	B	SE B	β	B	SE B	β
Gender	.20	.05	.09**	.21	.05	.09**
Socioeconomic status	-.23	.05	-.10**	-.23	.05	-.10**
Race: Hispanic	-.30	.09	-.07**	-.30	.09	-.07**
Extraversion	.56	.08	.16**	.56	.08	.16**
Neuroticism	-.38	.07	-.13**	-.35	.09	-.12**
Parent social support	.36	.03	.36**	.36	.03	.36**
Teacher social support	.08	.03	.08**	.08	.03	.08**
Peer social support	.04	.02	.05	.04	.03	.05
Stressful life events	-.08	.04	-.16*	-.07	.04	-.13
Social support x stressful life events	.01	.01	.10	.01	.01	.09
Neuroticism x stressful life events				-.02	.03	-.03
R^2		.35			.35	
F for change in R^2		1.62			1.04	

*$p < .05$. **$p < .01$.

CHAPTER 4

DISCUSSION

While several definitions and models of gratitude have been proposed, none has become widely accepted due to disagreement among professionals about the nature and constituency of defining characteristics of this construct. One of the more agreed-upon definitions considers gratitude to be trait like in nature. Gratitude is reported to appear in children as early as eight years of age (Froh et al., 2014). Several investigations have supported the role of trait gratitude in the development of identity, as well as its role in a variety of positive psychological, psychosocial, school-related, and physical health-related outcomes among adults (e.g., Bono et al., 2014). Nevertheless, reports from research addressing the antecedents of gratitude, especially in relation to youth and adolescents, are scarce in the literature. The present study aimed to address the origins of individual differences in gratitude among youth and adolescents and thus contribute to the development of empirically informed theoretical models to guide subsequent research. In doing so, I addressed several possible antecedents of gratitude differences in early adolescents, including demographic characteristics, two major personality variables (extraversion and neuroticism), one chronic environmental variable (social support), and one acute environmental variable (occurrence of stressful life events).

The major findings of this study were fourfold. First, key demographic variables were identified that related significantly to individual differences in gratitude in early

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adolescents. These variables included: gender, SES, and ethnicity. Findings revealed that early adolescent females indicated higher levels of overall gratitude than early adolescent males. These results are commensurate with those found in prior reports (e.g., Chan, 2012; Froh, Yurkewicz et al., 2009; Gordon et al., 2004; Tian et al., 2015). Froh, Yurkewicz, and colleagues (2009) have suggested that males tend to report lower levels of gratitude than females because gratitude may verify a male's weakness and, thus, threaten his masculinity. Hence, in research where self-report measures are used for data collection, males may tend to report lesser levels of gratitude to maintain greater perceptions of masculinity, particularly during the middle school years when gender differences become particularly salient. Additionally, students who indicated receiving free or reduced lunch (i.e., a proxy for lower SES) reported lower levels of overall gratitude when compared to those adolescents who paid for their lunch (i.e., a proxy for higher SES). Similarly, adolescents identifying as Hispanic reported lower levels of overall gratitude when compared to students who identified with other races or ethnicities. The reasons for these findings are unclear, however, it seems plausible that students from lower SES and minority backgrounds experience more adverse life events and hence experience less gratitude.

Second, the major personality characteristics of extraversion and neuroticism both related to gratitude above and beyond the effects of the demographic variables. Specifically, the findings revealed a statistically significant, but small (positive) relation between extraversion and gratitude as well as a statistically significant, but small (negative) relation between neuroticism and gratitude. Additionally, these traits remained uniquely related to gratitude after the demographic variables were taken into account in

the regression equation. It is possible that these results occurred due to characteristics associated with those who are more extraverted than introverted. For example, extraverted people tend to more readily seek social interactions, which have been suggested as a possible predictor of gratitude (e.g., Froh et al., 2010). Increased social experiences often lead to more frequent favors and acts of kindness from others, which, according to several theories of gratitude (e.g., Algoe, 2012;McCullough et al., 2001; McCullough et al., 2002), will likely increase feelings of gratitude. People with high levels of neuroticism tend to have fewer social interactions and more frequent negative emotions and emotional instability, which might influence the frequency with which they observe and experience acts eliciting gratitude. According to several theories of gratitude, (e.g., McCullough et al., 2001; McCullough et al., 2002), a person will experience increased gratitude by the modeling of others and by placing value on social interactions that elicit gratitude. If a person is high in neuroticism and shies away from social interactions that provide these occurrences, it is unlikely for this individual to have increased feelings of gratitude. Because the findings reported here are foundational in nature, further studies to elucidate these relationships in greater detail are indicated.

Third, early adolescents' perceptions of social support related significantly to early adolescents' reported levels of gratitude. The correlations between gratitude and parent, teacher, and peer social support were all statistically significant, showing that greater perceived support from all three sources was associated with higher levels of gratitude. Even after controlling for the significant demographic variables and personality traits, parent, peer, and teacher support made unique, significant contributions to adolescents' gratitude differences. That is, not only did social support from parents,

teachers, and/or peers predict increased gratitude in the middle school students in the study, but there appeared to be a cumulative effect. These results are generally consistent with those found in prior reports of the relations between social support variables and gratitude. However, social integration research has largely supported the role of gratitude as an antecedent of increased social integration and positive social relationships (Poelker & Kuebli, 2014; Froh, Yurkewicz et al., 2009; Froh et al., 2010; Froh, Emmons et al., 2011). Froh and colleagues (2010) specifically indicated a transactional relationship between gratitude and social integration. The current findings support the hypothesized linkage between social support and gratitude, although the question of directionality remains unresolved.

Fourth, as hypothesized, the frequency of occurrence of acute stressful life events was related inversely to gratitude in adolescents. The correlation was statistically significant but small in magnitude. Even after controlling for demographic variables, personality traits, and social support, the results of the multiple regression analysis indicated that the frequency of stressful events was statistically significantly inversely related to variance of self-reported levels of gratitude. Furthermore, the effects of stressful life events on gratitude were consistent across levels of social support and neuroticism. Thus, although prior studies have investigated gratitude as a buffer against the negative effects of stressful life events (e.g., Kashdan et al., 2006; Lies et al., 2014; Zheng et al., 2011; Zhou & Wu, 2015), the present study suggested direct effects of stressful life events on gratitude as well. It seems plausible that individuals who experience more environmental stressors would be less likely to report higher levels of trait gratitude compared to individuals who experience fewer environmental stressors.

In summary, this study identified a number of personal (i.e., demographic and personality trait) and environmental variables (i.e., social support and the prior occurrence of stressful life events) that appear to be related to individual differences in trait gratitude among early adolescents. Thus, these variables seem essential to include in subsequent model building attempts to explain the origins of gratitude differences in youth.

Strengths, Limitations, and Future Directions for Research

This study served as an exploratory project to contribute to the understanding of variables that may precede the development of trait gratitude differences in early adolescents. Given the positive psychosocial, psychological, and academic outcomes widely associated with increased 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), it seemed important to investigate the antecedents of this construct in order to inform and drive development of therapeutic and instructional approaches that facilitate result in positive outcomes for students. Nevertheless, this study reflected noteworthy limitations. First, although the sample was fairly large and relatively representative of the Southeastern United States (U.S. Census Bureau, 2015a), it was not representative of middle school students in the United States (U.S. Census Bureau, 2015b).

However, to assess the constructs discussed in relation to gratitude, four middle schools in the Southeastern United States were investigated using scales that are empirically supported for use with students of these ages. Thus, this study provided a unique contribution to the present literature base in that it utilized a demographically

diverse sample of students (with a notably close male to female ratio) in an age range that has not heretofore been widely explored relative to the variables of interest. Additionally, several potential antecedents of gratitude were identified, offering additional insight to the limited existing literature that addresses this concept.

Even so, determinations about generalizability these findings should be tempered by several additional limitations of the present study, which are noted. First, the current analyses were cross-sectional Future research should implement use of longitudinal data collection to further clarify the nature and directionality of the relationships discussed in the present study. Second, only self-report scales were utilized in the present study. Although the measures used have some evidence for their reliability and validity, the incorporation of parent, teacher, etc. reports would yield more confidence in the assessments of the relevant constructs.

Finally, the study did not likely incorporate the full array of variables that may be necessary to understand fully the origins of gratitude. Constructs such as hope (e.g., McCullough et al., 2002), spirituality (e.g., McCullough et al., 2002), subjective well-being (e.g., Emmons & McCullough, 2003) academic achievement (e.g., Froh, Emmons et al., 2011), beneficence (e.g., Fredrickson, 2001), and risk factors (e.g., Ma et al., 2013) have previously been included in several models of gratitude, though they may be considered for future research in which gratitude is considered as a dependent variable.

Implications for Professionals

The present investigation suggests implications not only for research development in the area of gratitude, but also for use by professionals in practice. Although prior research

has supported the utility of gratitude interventions to increase positive affect and future expressions of gratitude in youth and adolescents (e.g., Froh, Kashdan, Ozimkowski, & Miller, 2009; Froh et al., 2008; Lomas, Froh, Emmons, Mishra, & Bono, 2014), it has more recently been suggested there is insufficient support for the efficacy of gratitude interventions (Davis et al., 2016). Following their meta-analysis of gratitude interventions, Davis and colleagues (2016) emphasized the importance of expanding the breadth of research with regard to these types of interventions before implementation. Continued expansion of basic science research on gratitude with youth and adolescents has the potential to enhance our understanding of the development of gratitude in these populations and inform and expand the development and implementation of effective gratitude interventions. Gratitude interventions have not largely considered personality, demographic variables, stressful life events, or social support (e.g., Chan, 2010; Froh, 2010; Froh et al., 2008; Emmons & McCullough, 2003). Thus, the development of more comprehensive interventions may be beneficial, including more attention to additional components, such as parent involvement, teacher behavior change, reduction of life stressors, as well as possible moderators of the effectiveness of interventions.

Limitations and Future Directions for Research

Limitations of the current study should be noted. First, the sample was not representative of the United States population with respect to ethnicity and geographic location. Future research efforts would benefit from the use of more representative samples. Second, the current analyses were cross-sectional, though they provided direction for future analyses regarding temporally precedent variables, such as personality, prior stressful life events, and ongoing social support. Future research should implement use of longitudinal data

collection to further clarify the directionality of the relations discussed among gratitude

and its presumed antecedent variables. Third, only self-report scales were utilized in the

present study, yielding possible common method bias. The incorporation of multiple

methods of assessment, such as parent and teacher reports, would likely enhance the

validity of the measurements.

Nevertheless, this study extended beyond previous research by identifying several

key variables that appear to be important to incorporate in subsequent development of

comprehensive models of the antecedents (and consequences) of gratitude differences in

children in this age group. Though additional research is necessary to support the present

conclusions and expand upon results reported in this study, a foundation has been laid to

direct future research regarding the origins of gratitude in adolescents.

Implications for Professionals

The present investigation suggests implications not only for research development in the

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supported the utility of gratitude interventions to increase positive affect and future

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recently been concluded that there is insufficient support for the efficacy of gratitude

interventions. Following their meta-analysis of gratitude interventions, Davis and

colleagues emphasized the importance of expanding the breadth of research with regard

to gratitude interventions before implementation. Thus, the further study of effective

gratitude interventions may benefit from additional research on the origins of differences

in gratitude and possible mechanisms accounting for effective intervention outcomes. Continued expansion of gratitude research with youth and adolescents has the potential to inform more sophisticated intervention programs consistent with developmental considerations. To date, gratitude interventions have rarely considered the effects of demographic characteristics, personality traits, stressful life events, or social support (e.g., Chan, 2010; Emmons & McCullough, 2003; Froh, 2010; Froh et al., 2008), including moderators and mediators of such key determinants and outcomes. Thus, given the findings of this study, there may be a need for more comprehensive interventions, including giving more attention to the possible inclusion of psychosocial components, such as parent involvement, teacher behavior change, and so forth.

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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 – ABBREVIATED JUNIOR EYSENCK PERSONALITY QUESTIONNAIRE

Directions: Below are questions that describe students' thoughts, feelings, and behaviors.

Circle **1** if your answer is **NO**.

Circle **2** if your answer is **YES**.

	No	Yes
6. Can you get a party going?	1	2
7. Are you rather lively?	1	2
8. Do you like going out a lot'?	1	2
9. Do you find it hard to really enjoy yourself at a lively party?	1	2
10. Would you rather be alone instead of being with other young people?	1	2
11. Can you let yourself go and enjoy yourself a lot at a lively party?	1	2
12. Do you often feel 'fed-up'?	1	2
13. Are you easily hurt when people find things wrong with you or the work you do?	1	2
14. Do you find it hard to get to sleep at night because you are worrying about things?	1	2
15. Do you worry for a long while if you feel you have made a fool of yourself?	1	2
16. Are you feelings rather easily hurt?	1	2

Note. Items on the Abbreviated Junior Eysenck Personality Questionnaire Revised were coded from the original scale such that 1=0 and 2=1 in order to create composite variables.

APPENDIX C – CHILD AND ADOLESCENT SOCIAL SUPPORT SCALE

Directions: Below are sentences about some form of support or help that you might get from either a parent, teacher, or classmate.

Circle **1** if you **NEVER** receive the support.
Circle **2** if you **ALMOST NEVER** receive the support.
Circle **3** if you receive the support **SOME OF THE TIME**.
Circle **4** if you receive the support **MOST OF THE TIME**.
Circle **5** if you **ALMOST ALWAYS** receive the support.
Circle **6** if you **ALWAYS** receive the support.

	Never	Almost Never	Some of the Time	Most of the Time	Almost Always	Always
17. My parent(s) show they are proud of me.	1	2	3	4	5	6
18. My parent(s) understand me.	1	2	3	4	5	6
19. My parent(s) listen to me when I need to talk.	1	2	3	4	5	6
20. My parent(s) make suggestions when I don't know what to do	1	2	3	4	5	6
21. My parent(s) give me good advice.	1	2	3	4	5	6
22. My parent(s) help me solve problems by giving me information	1	2	3	4	5	6
23. My parent(s) tell me I did a good job when I do something well	1	2	3	4	5	6
24. My parent(s) nicely tell me when I make mistakes.	1	2	3	4	5	6
25. My parent(s) reward me when I've done something well.	1	2	3	4	5	6

26. My parent(s) help me practice my activities.	1	2	3	4	5	6
27. My parent(s) take time to help me decide things.	1	2	3	4	5	6
28. My teacher(s) cares about me.	1	2	3	4	5	6
29. My teacher(s) treats me fairly.	1	2	3	4	5	6
30. My teacher(s) makes it okay to ask questions.	1	2	3	4	5	6
31. My teacher(s) explains things that I don't understand.	1	2	3	4	5	6
32. My teacher(s) shows me how to do things.	1	2	3	4	5	6
33. My teacher(s) helps me solve problems by giving me information.	1	2	3	4	5	6
34. My teacher(s) tells me I did a good job when I've done something well.	1	2	3	4	5	6
35. My teacher(s) nicely tells me when I make mistakes.	1	2	3	4	5	6
36. My teacher(s) tells me how well I do on tasks.	1	2	3	4	5	6
37. My teacher(s) makes sure I have what I need for school.	1	2	3	4	5	6
38. My teacher(s) takes time to help me learn to do something well	1	2	3	4	5	6
39. My teacher(s) spends time with me when I need help.	1	2	3	4	5	6
40. My classmate(s) treat me nicely.	1	2	3	4	5	6
41. My classmate(s) like most of my ideas and opinions.	1	2	3	4	5	6
42. My classmate(s) pay attention to me.	1	2	3	4	5	6
43. My classmate(s) give me ideas when I don't know what to do.	1	2	3	4	5	6
44. My classmate(s) give me information so I can learn new things.	1	2	3	4	5	6
45. My classmate(s) give me good advice.	1	2	3	4	5	6

46. My classmate(s) tell me I did a good job when I've done something well.	1	2	3	4	5	6
47. My classmate(s) nicely tell me when I make mistakes.	1	2	3	4	5	6
48. My classmate(s) notice when I have worked hard.	1	2	3	4	5	6
49. My classmate(s) ask me to join activities.	1	2	3	4	5	6
50. My classmate(s) spend time doing things with me.	1	2	3	4	5	6
51. My classmate(s) help me with projects in class.	1	2	3	4	5	6

APPENDIX D – 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.