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Counting blessings in early adolescents: An experimental study of gratitude and subjective well-being[☆]

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Abstract

The development and manifestation of gratitude in youth is unclear. We examined the effects of a grateful outlook on subjective well-being and other outcomes of positive psychological functioning in 221 early adolescents. Eleven classes were randomly assigned to either a gratitude, hassles, or control condition. Results indicated that counting blessings was associated with enhanced self-reported gratitude, optimism, life satisfaction, and decreased negative affect. Feeling grateful in response to aid mediated the relationship between experimental condition and general gratitude at the 3-week follow-up. The most significant finding was the robust relationship between gratitude and satisfaction with school experience at both the immediate post-test

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and 3-week follow-up. Counting blessings seems to be an effective intervention for well-being enhancement in early adolescents.

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Introduction

Gratitude is not only the greatest of virtues, but the parent of all others.

— Cicero

Ingratitude! thou marble-hearted fiend, more hideous when thou show'st thee in a child than the sea-monster!

— Shakespeare's *King Lear*

A class of students was asked to identify the Seven Wonders of the World. With some minor disagreement, the following received the most attention: Egypt's great pyramids, Taj Mahal, Grand Canyon, Panama Canal, Empire State Building, St. Peter's Basilica, and China's Great Wall. However, there was one student who did not complete the assignment in time. When her teacher approached her, she stated that she was having some difficulty because there was so much to be grateful for and she could not decide that easily. Upon further inquiry, the student maintained that the Seven Wonders of the World were: to see, to hear, to touch, to taste, to feel, to laugh, and to love (C. Colligan, personal communication, February 27, 2006).

Gratitude can be conceptualized as a virtue or as an emotional state. From the perspectives of moral philosophy and theology, gratitude is seen as a human strength that enhances one's personal and relational well-being and is beneficial for society as a whole (Simmel, 1950). McCullough, Kilpatrick, Emmons, and Larson (2001) theorized that gratitude is a moral affect—that is, one with moral precursors and consequences. They hypothesized that by experiencing gratitude, a person is motivated to carry out prosocial behavior, energized to sustain moral behaviors, and is inhibited from committing destructive interpersonal behaviors. Specifically, they posited that gratitude serves as a *moral barometer*, providing individuals with an affective readout that accompanies the perception that another person has treated them prosocially. Second, they posited that gratitude serves as a *moral motive*, stimulating people to behave prosocially after they have been the beneficiaries of other people's prosocial behavior. Third, they posited that gratitude serves as a *moral reinforcer*, encouraging prosocial behavior by reinforcing people for their previous good deeds. McCullough et al. adduced evidence from a wide variety of studies in personality, social, developmental and evolutionary psychology to support this conceptualization.

As an emotion, gratitude stems from the perception that one has experienced a positive outcome that has been intentionally provided by another person or "moral agent," often but not necessarily a person (Emmons & McCullough, 2003). The object of gratitude is other-

directed to persons, as well as to impersonal (nature) or non-human sources (God, animals, the cosmos). Gratitude may be defined as “a sense of thankfulness and joy in response to receiving a gift, whether the gift be a tangible benefit from a specific other or a moment of peaceful bliss evoked by natural beauty” (Peterson & Seligman, 2004, p. 554). As an emotion, gratitude is an attribution-dependent state that results from two stages of information processing: (a) recognizing that one has obtained a positive outcome; and (b) recognizing that there is an external source for this positive outcome. In the present study, we operationalize gratitude in a manner identical to that followed by Emmons and McCullough (2003) in their gratitude intervention studies. Specifically, we ask school-aged children to focus on things in their lives for which they are grateful or thankful. Previous research has demonstrated this to be an effective strategy for activating grateful thoughts and feelings (Emmons & McCullough, 2003; Sheldon & Lyubomirsky, 2006).

Although embraced by philosophers, theologians, and popular authors, until recently gratitude has been largely ignored by the field of psychology (Emmons, 2004). Moreover, what research there is has been conducted solely with adults, resulting in a dearth of research on gratitude with children and adolescent populations. Given gratitude's relationship to happiness, hope, pride, optimism, positive mood, self-actualization, smooth interpersonal relationships, and a sense of community (Emmons & Shelton, 2002), a rigorous investigation of this positive emotion is vital if optimal psychological growth among early/late adolescents is to be fully understood. To this end, the purpose of the present investigation was to make the first attempt at determining the relationship between gratitude inducing behaviors (e.g., counting blessings) and well-being within an early adolescent population.

Gratitude in childhood and adolescence

Developmental theorists from Melanie Klein to the present considered gratitude a capacity present from birth that develops as the child's cognitive and emotional systems mature. Klein (1957) viewed gratitude as a developmental achievement and hallmark of emotional maturity that “underlies the appreciation of goodness in others and in oneself” (Klein, p. 187). Research has shown that children's comprehension of gratitude is a process played out over several years. More specifically, gratitude does not appear to occur regularly in response to receiving benefits until middle childhood (Emmons & Shelton, 2002). Gleason and Weintraub (1976), for example, found that few children (i.e., 21%) younger than 6 years of age expressed thanks to adults who gave them candy, whereas most children (i.e., more than 80%) of 10 years of age or older expressed gratitude in the same situation. Based on these data, it appears that the link between attributions of responsibility for positive outcomes, the experience of gratitude, and the desire to do good to one's benefactor probably is solidified between ages 7 and 10 (see also Graham & Weiner, 1986; Weiner & Graham, 1988, for reviews). The developmental research that exists has focused nearly exclusively on children's understanding of the situational antecedents of gratitude or their beliefs about gratitude as an emotion concept (e.g., Russell & Paris, 1994), not the actual experience of gratitude.

A notable exception that examined gratitude-inducing experiences in children was a recent study that analyzed archival (newspaper) accounts of what school-aged children

said they were thankful for in the aftermath of September 11th, 2001 (Gordon, Musher-Eizenman, Holub, & Dalrymple, 2004). The most common themes mentioned were family, friends, police, firefighters, other helpers, and freedom. Girls were generally more thankful than boys, and were more thankful for family and friends, whereas boys were more grateful for material objects. The study did not examine the link between gratitude and outcomes such as happiness, well-being, or coping, however. It remains to be seen whether counting blessings impacts on children's well-being in a manner similar to adults.

Gratitude and subjective well-being

Be it as a state or trait emotion, gratitude has clearly been linked to subjective-well being. Indeed, happy people tend to be grateful people (Watkins, 2004). Moreover, expressing gratitude seems to intensify our already felt positive affect in response to being the beneficiary to a benefactor's kind behavior (e.g., giving a gift). "It is as if our enjoyment is incomplete unless some praise or gratitude is expressed to the source of our enjoyment" (Watkins, p. 167). Subsequently, capitalizing on positive experiences by processing them post hoc seems to be psychologically beneficial. Indeed, the ability to notice positive occurrences in one's life and to enjoy them allows us to have more fulfilling experiences (Langston, 1994).

A variety of emotional benefits resulting from a simple practice of gratitude have been demonstrated in previous research. In an experimental manipulation, college students who kept gratitude journals on a *weekly* basis exercised more regularly, reported fewer physical symptoms, felt better about their lives as a whole, and were more optimistic about the upcoming week compared to those who recorded hassles or neutral life events (Emmons & McCullough, 2003, Study 1). In a *daily* gratitude journal-keeping exercise (Emmons & McCullough, Study 2) with college students higher reported levels of the positive states of alertness, enthusiasm, determination, attentiveness and energy resulted compared to a focus on hassles or a downward social comparison (ways in which participants thought they were better off than others). Participants in the daily gratitude condition were more likely to report having helped someone with a personal problem or having offered emotional support to another, relative to the hassles or social comparison condition. This indicates that, relative to a focus on complaints, an effective strategy for producing reliably higher levels of pleasant affect is to lead people to reflect, daily, on those aspects of their lives for which they are grateful. In a third study, Emmons and McCullough replicated these effects in adults with neuromuscular diseases. Not only did patients in the grateful condition show an advantage in positive affect and life satisfaction in self-reports, but also in the reports of significant others. These studies support the contention that gratitude has a causative influence on subjective well-being, but we do not know whether these same effects would be seen in younger populations.

Gratitude, well-being, and adolescence

Adolescence is a period of significant change physically, socially, emotionally, and intellectually (Freud, 1958). Early adolescents often appear and behave more like children (e.g., latency), whereas late adolescents mature and begin to engage in behaviors more

typical of adults. The fact is they are *neither*. Rather, this is a transitional period between childhood and adulthood and, as with most transition periods, negotiation is difficult (Holmbeck & Kendall, 2002). Indeed, given the tumultuous nature of this developmental period, early adolescence is oftentimes associated with an increase in familial distancing, relational disruption, and even depression (Silverberg & Steinberg, 1990; Steinberg, 1987). Moreover, since adolescents experience rapid shifts in mood and extreme positive and negative affective valence (Myers, 1992), coupled often with feelings of disconnect, they may have difficulty sustaining an even level of positive affect.

Notwithstanding, if one looks at adolescence from a developmental perspective where both change and growth can occur one can view it in a more malleable and positive fashion. Specifically, in a period of change an opportunity is present for negative outcomes, stagnation, *or* positive psychological growth (Cicchetti & Toth, 1996, as cited in Cicchetti & Rogosch, 2002). What variables influence this change? Factors such as poor school performance, difficulty at home and other negative experiences are likely to lead to more disruptions (Petersen, Compas, & Brooks-Gunn, 1993). However, it stands to reason that positive experiences such as family cohesion, strong parental and peer bonds, and academic success or perceptions (e.g., optimism; i.e., Seligman, 1995) would lessen mood disruptions and enhance life experiences (Langston, 1994).

Therefore, capitalizing on one's strengths and fostering positive attributes (e.g., gratitude and optimism) may buffer against such negative outcomes and the development of psychological maladies (Masten, 2001; Seligman, 1995). To illustrate, life satisfaction mediates the relationship between parenting style and adolescent problem behavior (Suldo & Huebner, 2004a) and moderates stressful life events and externalizing disorders (Suldo & Huebner, 2004b). Furthermore, happy adolescents tend to report fewer symptoms of depression and anxiety (Gilman & Huebner, 2003) and less substance abuse (Zullig, Valois, & Huebner, 2001) and violent behaviors (e.g., physical fighting and weapon carrying; i.e., Valois, Zullig, & Huebner, 2001). Though adolescence can be described as turbulent and stressful on both the adolescents themselves and the family system as a whole (Freud, 1958), happiness and well-being may mitigate these effects and buffer future occurrences.

The present study

To summarize, the empirical study of gratitude in children is largely uncharted territory. Furthermore, and to the point of this study, it is unknown whether gratitude is an innate feeling that may be manifested differently as a function of developmental stage and sex of the child, whether gratitude can be cultivated on a regular basis, and if so, in what ways does it influence positive psychological functioning. Gordon et al. (2004) suggest that classroom discussions and exercise in which children are encouraged to reflect on the sources of gratitude in their own lives may be effective in supporting positive development in children.

To this end, the primary purpose of the current study was to partially replicate Emmons and McCullough (2003) with an early adolescent population. Following their methodology, we randomly assigned classes of 6th and 7th graders to either a gratitude, hassles, or control condition for a period of 2 weeks and then examined the effect of the intervention on psychological, physical, and social well-being at both an immediate post-test and 3-week follow-up. Given gratitude's relationship to well-being in adult samples and that gratitude

may begin to develop in early adolescence it makes logical sense that counting one's blessings within early adolescence will, indeed, be related to well-being and other positive outcomes (e.g., prosocial behavior). Subsequently, we hypothesized that the gratitude induction (i.e., counting blessings) will be related to greater subjective well-being, appreciation toward aid, prosocial behavior, and fewer physical symptoms when compared to those participants who either focus on irritants or serve as controls. Furthermore, we hoped that providing adolescents gratitude fostering techniques would be valuable in helping them achieve sustainable well-being.

Method

Participants

The sample consisted of 221 middle school students in grades 6 and 7 (Mean age=12.17, SD=.67) who were enrolled in mandatory curriculum (gratitude: $n=76$, hassles: $n=80$, control: $n=65$). All classes (i.e., 11 total) presently enrolled in this curriculum were asked to participate. There were 49.8% males and 40.7% females (9.5% failed to report their sex) with the majority being Caucasian (68.9%). One class in the control group did not complete the measures during one of the daily collections (i.e., the 8th day) due to the teacher forgetting to distribute the packets. Moreover, three 6th grade classes, one from each experimental condition, did not complete pre-test measures on the date set, as did all other classes, due to a field trip. Therefore, these 3 classes completed pre-test measures on the second day of data collection. Please see the results section concerning between group differences with these distinct groups.

Measures

Before the study commenced, several school psychologists and school psychology interns reviewed all the measures used by [Emmons and McCullough \(2003\)](#) for age appropriate language. The principal investigator piloted the measures on several students (none of which were included in the sample) chosen randomly from the school population. Upon taking all of this feedback into consideration, a final version was created and reviewed by the first and second author until an agreement was reached for all items.

Some measures were given at every data point, while others were not. The assessment summary for specific data points and measures is as follows. At the pre-test, participants completed the demographics and measures assessing well-being, life satisfaction, physical symptoms, reactions to aid, and prosocial behavior. In between the pre- and post-test, only the well-being ratings and prosocial behavior measure were completed. Demographics aside, the measures completed during the immediate 2-week post-test and 3-week follow-up were identical to those completed at the pre-test.

Well-being ratings

The 30 affect terms, which included additional terms specific to gratitude (i.e., grateful, thankful, appreciative), used by [Emmons and McCullough \(2003\)](#) were considered. The following 25 affect items were used: interested, distressed, excited, alert, irritable,

ashamed, grateful, upset, strong, nervous, guilty, determined, thankful, attentive, forgiving, hostile, hopeful, enthusiastic, active, inspired, afraid, jittery, proud, appreciative, and scared. Each item was followed by a Likert scale from 1 (not at all) to 5 (extremely). Participants were asked to rate the amount they experienced each feeling “since yesterday” on a daily basis.

Life satisfaction

The two items used by [Emmons and McCullough \(2003\)](#) to assess concurrent and prospective overall life satisfaction were utilized. Specifically, participants were asked to rate how they felt about their life as a whole “during the past few weeks” on a Likert scale from -3 (terrible) to $+3$ (delighted). This item was modeled after Andrews and Withey (1976) (as cited in Emmons & McCullough). Moreover, participants were instructed to rate how they expected to feel about their life “next week” on a Likert scale ranging from -3 (expecting the worst) to $+3$ (expecting the best).

Given the multidimensional aspect of life satisfaction in children and adolescents ([Huebner, 1994](#)) participants were asked to complete the Brief Multidimensional Students' Life Satisfaction Scale (BMSLSS) ([Seligson, Huebner, & Valois, 2003](#)). The BMSLSS is designed to assess both the higher-order domain of general life satisfaction (i.e., overall life satisfaction), in addition to different lower-order domains, which in this case are single items. Overall life satisfaction is measured via summing respondents' scores across the five items. The BMSLSS is a 5-item scale used to assess the domains of life satisfaction deemed most pertinent to children and adolescents. Namely, items assess satisfaction in the areas of family life, friendships, school experience, self, and living environment (i.e., residency). The response options are on a 7-point Likert scale ranging from 1 (terrible) to 7 (delighted). Internal consistency is acceptable, with alphas of .75 and .81 for middle and high school students, respectively. Confirmatory factor analyses support its construct validity with a total life satisfaction score accounting for 50% of the total variance. Construct validity for the five one-item domain scores is also supported via multitrait–multimethod analyses ([Huebner, Suldo, & Valois, 2003](#)).

Physical symptoms

Participants were asked to check off “the following things you have experienced over the past 2 weeks.” The subsequent symptoms were listed: headaches, dizziness, stomach ache/pain, shortness of breath, chest pain, runny nose, feeling chilly or really hot, not feeling hungry or not eating, coughing/sore throat, stiff or sore muscles, nausea or felt like you were going to throw up, and other. Given the age of the sample, minor variations were made to those used by [Emmons and McCullough \(2003\)](#), who indicated this measure to be valid and reliable in assessing self-perceived health. To illustrate, “hot or cold spells” was replaced by “feeling chilly or really hot.” “Acne/skin irritation” was omitted by accident in recreating this measure.

Reactions to aid

Gratitude is an emotion experienced as a result of being the recipient of a benefit. Therefore, modeling after [Emmons and McCullough \(2003\)](#), participants were asked at pre-test, post-test, and follow-up to “check off how you handled the most serious problem you

dealt with over the past few weeks.” The options were: accepted sympathy from someone, talked to someone about how you were feeling, and got help or advice from someone. If the participant indicated that they engaged in such a coping response, they were provided with the following instructions: “Please rate how you felt toward the person who helped you using the following feelings.” The affect adjectives provided were: grateful, annoyed, embarrassed, surprised, understood, glad, frustrated, and appreciative. All adjectives were followed by a Likert scale ranging from 1 (not at all) to 5 (extremely).

Prosocial behavior

Participants were asked daily to indicate the degree to which they engaged in prosocial behavior. Specifically, they were instructed to answer “yes” or “no” to the following questions: “Have you helped someone with a problem since yesterday?” and “Have you offered someone emotional support since yesterday?” Similar items were used in [Emmons and McCullough \(2003\)](#).

Procedure

A quasi-experimental design was followed by randomly assigning 11 classes to 1 of 3 conditions (i.e., gratitude, hassles, and control). Four classes each received the gratitude or hassles condition (8 classes total) and three classes served as no-treatment controls. Students enrolled in “Family and Consumer Science” were sought for participation because the curriculum is mandatory. As such, the probability of obtaining a representative sample from the total school population (e.g., honors and special education) was increased.

Participants in the gratitude condition were asked to list up to five things they were grateful for since yesterday. Specifically, participants were given the following instructions: “There are many things in our lives, both large and small, that we might be grateful about. Think back over the past day and write down on the lines below up to five things in your life that you are grateful or thankful for.”

In the hassles condition, participants were instructed that: “Hassles are irritants — things that annoy or bother you. They occur in various areas of life, including our family, friendships, school, health, and so on. Think back over the past day and, on the lines below, list up to five hassles that occurred in your life.” The control group just completed the measures. Aside from the counting of blessings or burdens, conditions were equal.

There are a variety of comparison conditions that might be used. We have reason to believe that a life hassles control group is an appropriate control condition. First, we wished to replicate the previous studies by [Emmons and McCullough \(2003\)](#). Second, and more importantly, we wished to create an explicit contrast to the counting blessings condition. In the gratitude condition, participants are focused on the presence of a positive outcome or uplift. In the hassles condition, participants are focused on the presence of a negative outcome or stressor. Third, benefit-finding and fault-finding are contrasting attentional foci that we believe are of equivalent psychological meaning and magnitude in terms of the nature of circumstances listed. Hassles have personalized meanings that make them salient, noticeable, and memorable ([Lazarus & Folkman, 1984](#)). They depend upon how life is experienced and bear an inexact relationship to

actual life events encountered. Unlike major life events, these are frequently recurring in daily life and are often taken for granted because they seem relatively unimportant compared with major life events (Lazarus & Folkman). Similarly, daily blessings may also seem unimportant compared to the really significant positive events in life and are apt to be taken for granted unless a person is asked to consciously focus on them. Blessings are also highly dependent upon appraisal processes. For example, one child might include “that my parents are strict” as a hassle, whereas another might see parental concern as something to be thankful for. Gratitude interventions are still a nascent area of research and there is not yet a widely accepted standardized paradigm to draw upon, but for the reasons articulated above we believe the hassles condition provides a sensible and justifiable comparison group.

Modeling after [Emmons and McCullough \(2003\)](#), participants were provided with these instructions followed by five blank lines to indicate their responses. Daily ratings were completed after the gratitude and hassles listings so as to reduce the effects of experimental demand. Data were collected daily for 2 weeks during class instruction time with a 3-week follow-up. Therefore, given the nature of a school’s schedule, data were collected on Monday through Friday for weeks 1 and 2 and then 3 Fridays from the immediate post-test for the follow-up. Prior research (Emmons & McCullough) indicated significantly larger effect sizes for both the promotion and inhibition of gratitude for daily inductions that continued for 2 weeks versus weekly inductions for 10 weeks. Therefore, due to the stronger effects for counting blessing’s daily versus weekly, we opted for participants to engage in the intervention daily for 2 weeks.

Several weeks prior to commencement, the principal investigator introduced himself to the entire classroom and stated, “In a few weeks, I am going to ask you to help me answer some questions about what kids think and feel. Would everyone be able to help me?” All students were also informed that not contingent on participation each class would be receiving donuts as an expression of gratitude when the study was completed. One week prior to pre-test, the principal investigator met with each teacher independently and reviewed all measures and general instructions. Two out of the three teachers were kept blind to hypotheses and were unaware of the three experimental conditions. They were only informed of the particular condition (i.e., counting blessing’s or hassles) assigned to their class. However, due to scheduling and class size, one teacher had four hassles classes and one control class. Therefore, though this teacher was also kept blind to the hypotheses, it is possible that she was cognizant that between group differences were expected. Nonetheless, since the teachers assigned to the intervention were informed of the explicit instructions, given the age of the participants and likely questions to be asked, possible demand characteristics in this regard may have been present. Therefore, to aid in the standardization of the intervention and decrease the influence of demand characteristics, teachers were provided with a script to introduce the study to the participants. While all three teachers received identical scripts for introducing the study, two teachers were each provided with either the directions for the gratitude or the hassles condition. Due to the scheduling and class size conflict previously mentioned, one teacher was given an instruction set for both the hassles and control condition. Further addressing potential demand characteristics, the principal investigator and a school psychology intern conducted several random integrity checks. Data packets were distributed to and collected from each teacher daily for all data points.

Results

Due to the conceptually replicating nature of the current study, analyses by [Emmons and McCullough \(2003\)](#) were used as a guide; however, additional analyses were conducted given the use of supplementary measures and alternative hypotheses. If post or follow-up data were missing, a very conservative approach assuming no change from pre-test scores was followed and pre-test scores were entered in place of the missing post-test or follow-up data. This was done for all dependent variables. It should also be noted that pre-test scores for each dependent variable (e.g., gratitude) were used as the covariate in all one-way analyses of covariance (i.e., ANCOVA). This was deemed particularly necessary to control for any history effects potentially created by the field trip. Indeed, independent samples *t*-tests yielded significant differences ($p < .05$) between the control class ($n = 22$) that went on the field trip compared to the control classes ($n = 43$) that completed data on the pre-determined pre-test date. Specifically, the classes that completed measures on the pre-arranged date reported significantly greater positive affect and optimism about the upcoming week compared to the other controls. All other between group comparisons for the remaining two conditions at pre-test on the dependent variables was non-significant. Consequently, all data were used for analyses and discrete variables (i.e., 999) for the three classes that attended the field trip were entered into the dataset on the first day of data collection after the pre-test (i.e., day 2).

Factor analyses and composite scores

The three adjectives related to gratitude (i.e., grateful, thankful and appreciative) were combined to form daily composites of gratitude, as well as an 8-day aggregate (i.e., all days excluding pre, post, and follow-up), post-test, and 3-week follow-up composite. Alphas ranged from .78 to .88 for all 11 data points. Overall, these three items were highly correlated.

Composite affect variables were created for the remaining 22 adjectives. Due to error in duplicating the affect scale, there were two “distressed” adjectives. Therefore, we took the mean for the two distressed items, created a daily distressed variable for each data point, and then aggregated these daily means to create a total distressed composite. This correction seemed appropriate because the two distressed variables significantly correlated ($p < .01$) at each day. All correlations were at or above .64. Eight day affect composite variables included days 2 through 9, which excluded pre-test, post-test and follow-up.

Eight-day composites (i.e., all data points excluding pre, post, and follow-up scores) of positive and negative affect were calculated via a principal components factor analysis with an oblique rotation using the 8-day mean composites of the 22 affect adjectives (excluding grateful, thankful, and appreciative). Using eigenvalues greater than 1.0, three factors yielded eigenvalues greater than 1.0, with the eigenvalues dropping markedly from the second to third factor (i.e., 6.1 to 1.3). Therefore, we determined that two factors were present. We then re-ran the factor analysis specifying only two factors be extracted. Here, the two factors accounted for 63.89% of the variance. Additionally, a scree plot clearly indicated that two factors were present, as there was a sharp break in the line beyond the two factors. All of the items loaded where expected. Specifically, the largest loading for the first factor (i.e., positive affect) on the second factor (i.e., negative affect) was .14. Moreover, the

largest loading of a negative affect item on the positive affect factor was .11. The positive and negative affect factor accounted for 36.03% and 27.85% of the variance, respectively. Even with using an oblique rotation, the positive and negative affect scores were virtually unrelated $r(229) = .11, p > .05$.

Internal consistency was strong for the negative and positive affect variables at post and follow-up. Alphas were .91 and .92 for positive and negative affect at post, respectively, and .90 and .91 for positive and negative affect at follow-up, respectively. Overall, the affect composites seemed to have been measured reliably.

Concerning grateful emotions in response to receiving aid, the four feelings of grateful, appreciative, understood, and glad were summed into a composite variable at pre, post, and follow-up. Indeed, highly reliable composites were attained with alphas of .77, .85, and .88 at pre, post, and follow-up, respectively.

Overall life satisfaction composites were created by summing the five items of Huebner et al.'s (2003) multidimensional scale. Cronbach's alpha was .77, .85, and .88 for pre, post, and follow-up, respectively. A principal components factor analysis confirmed Huebner et al.'s finding of a higher order overall life satisfaction score. Indeed, the first factor accounted for 52.82%, 62.68%, and 68.24% of the variance at pre, post, and follow-up, respectively. A scree plot clearly illustrated one meaningful factor. While the two items measuring life satisfaction with the past few weeks and anticipated life satisfaction in the next week were significantly correlated (i.e., $p < .001$) at the pre-test, post-test, and 3-week follow-up, these items were used as separate dependent variables following the procedure of Emmons and McCullough (2003). Our main focus was to compare the results of this study using an early adolescent sample to those of Emmons and McCullough with adults.

Well-being

Gratitude

An ANCOVA was used to determine if the three conditions (i.e., gratitude, hassles, and control) differed with respect to felt gratitude over the 8 days between pre- and post-test, at post-test, or follow-up. A significant main effect existed for the post-test and follow-up variable, $F(2,213) = 3.92$, $MSE = 1.05$, $p < .05$, $\eta^2 = .04$ and $F(2,208) = 4.48$, $MSE = .95$, $p = .01$, $\eta^2 = .04$, respectively. Effect sizes indicated a small to medium effect for both variables. Follow-up tests revealed that the gratitude condition reported greater gratitude compared to the hassles group using the post-test, $F(1,213) = 6.63$, $p = .01$ and follow-up variable, $F(1,213) = 7.97$, $p < .01$. A significant interaction between sex and condition was not present using the 8-day aggregate, post-test, or follow-up as the dependent variable. The means and standard deviations for the 8-day aggregate, post-test, and 3-week follow-up gratitude composite variables for all conditions appear in Table 1.

Positive and negative affect

A main effect did not exist for condition when using either the 8-day, post-test, or 3-week follow-up positive affect composite as the dependent variable. However, differences existed between conditions with respect to negative affect. Specifically, using the 8-day negative affect composite as the dependent variable, condition yielded a significant main effect, $F(2,215) = 6.89$, $MSE = .23$, $p < .01$, $\eta^2 = .06$, indicating a moderate effect. Follow-up tests

Table 1

Effects of experimental condition on gratitude for 8-day aggregate, post-test, and follow-up composites

Dependent variable	Gratitude	Hassles	Control	<i>F</i>
8-day aggregate	3.35 (1.11)a	3.20 (1.03)a	3.54 (.91)a	2.45 (2, 215)
Post-test	3.32 (1.26)a	2.98 (1.25)b	3.42 (.97)ab	3.92* (2, 213)
Follow-up	3.56 (1.12)a	3.19 (1.25)b	3.60 (.95)ab	4.47* (2, 208)

Note. The values under the condition columns represent means of gratitude. Numbers in parentheses next to these means indicate standard deviations. Values adjacent to *F*'s represent degrees of freedom. Means that do not share a letter are significantly different, $p < .05$. * $p < .05$.

indicated that the gratitude condition reported significantly less negative affect compared to the hassles condition, $F(1,215)=9.12$, $p < .01$. Moreover, the controls appeared to experience significantly less negative affect compared to the hassles group, $F(1,215)=10.98$, $p < .01$.

Between-group differences in negative affect were also evident at both post-test and follow-up. ANCOVA's with either post, $F(2,216)=4.01$, $MSE=.39$, $p < .05$, $\eta^2=.04$, or follow-up, $F(2,214)=7.14$, $MSE=.48$, $p < .01$, $\eta^2=.06$, negative affect composite variables as the dependent measure yielded a significant main effect for condition. Effect sizes were considered moderate. L-matrix analyses were consistent with those for the 8-day negative affect composite variables. Specifically, at post-test the gratitude and control condition reported significantly less negative affect compared to the hassles group, $F(1,216)=5.05$, $p < .05$, $F(1,216)=6.85$, $p < .01$, respectively. Such effects were maintained at the 3-week follow-up with the gratitude and control group indicating significantly less negative affect compared to the hassles condition, $F(1,214)=12.03$, $p < .01$. Table 2 illustrates the means and standard deviations by condition of negative affect for the 8-day, post-test, and follow-up composites.

Life satisfaction

The mean ratings, standard deviations, and group *F*'s at post-test for global items of satisfaction with one's life (i.e., past few weeks and upcoming week) and the constructs measured by Huebner et al's. (2003) BMSLSS (e.g., school and family) as dependent variables are shown in Table 3 only if significant main effects for condition were present. There was a significant main effect for the ratings of one's life satisfaction with the past few weeks. Participants in the control group reported significantly more satisfaction within this domain compared to the hassles group. The gratitude group rating the satisfaction with the

Table 2

Effects of experimental condition for 8-day aggregate, post-test, and follow-up negative affect composite

Dependent variable	Gratitude	Hassles	Control	<i>F</i>
8-day aggregate	1.65 (.65)a	1.92 (.78)b	1.57 (.54)a	6.89** (2, 215)
Post-test	1.63 (.86)a	1.91 (.80)b	1.56 (.70)a	4.01* (2, 216)
Follow-up	1.70 (.78)a	2.09 (.98)b	1.60 (.69)a	7.14** (2, 214)

Note. The values under the condition columns represent means of negative affect. Numbers in parentheses next to these means indicate standard deviations. Values adjacent to *F*'s represent degrees of freedom. Means that do not share a letter are significantly different, $p < .05$. * $p < .05$. ** $p < .01$.

Table 3
Group comparison on life satisfaction at post-test

Dependent variable	Gratitude	Hassles	Control	<i>F</i>
Past few weeks	5.80 (1.29)ab	5.47 (1.49)b	6.00 (1.05)a	3.50* (2, 202)
School experience	5.60 (1.25)a	5.12 (1.68)b	5.25 (1.35)b	4.00* (2, 202)

Note. The values under the condition columns represent means of life satisfaction. Numbers in parentheses next to these means indicate standard deviations. Values adjacent to *F*'s represent degrees of freedom. Means that do not share a letter are significantly different, $p < .05$. * $p < .05$.

past few weeks of their lives greater than the hassles group approached significance (i.e., $p = .063$). A main effect was evident for satisfaction with school experience, with the gratitude group indicating greater satisfaction with their school experience when compared to both the hassles and control group. Main effects did not exist for any other of the life satisfaction domains at post-test.

The same analyses were conducted as in the previous paragraph, except this time the participant's ratings of life satisfaction at the 3-week follow-up were used as the dependent variable. The gratitude group rated their upcoming week more favorably compared to hassles. Similar to post-test, participants in the gratitude condition were significantly more satisfied with their school experience than those in either the hassles or control condition (see Fig. 1). Concerning satisfaction with where one lives (i.e., residency), those in both the gratitude and control group indicated greater satisfaction compared to the hassles condition (see Table 4). No other main effects for condition reached significance.

Physical illness

A health composite score for post-test and the 3-week follow-up were created and used as the dependent variable. The composite variable was created by taking the sum of the 12 items at each data point. There were no significant between-group differences in physical health experiences.

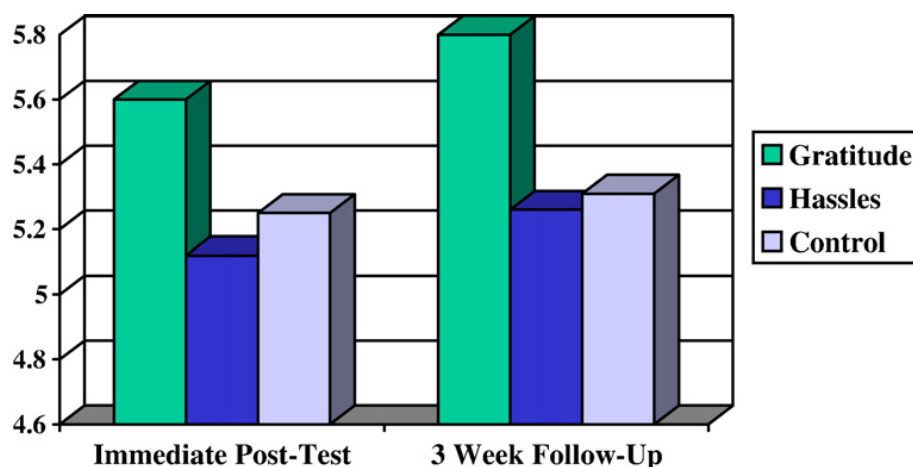


Fig. 1. Satisfaction with school experience at immediate post-test and 3-week follow-up.

Table 4

Group comparison on life satisfaction at 3-week follow-up

Dependent variable	Gratitude	Hassles	Control	<i>F</i>
Upcoming week	6.11 (1.36)a	5.53 (1.78)b	5.90 (1.20)ab	3.17 (2, 193)*
School experience	5.80 (1.21)a	5.26 (1.80)b	5.31 (1.34)b	3.98 (2, 194)*
Residency	6.36 (.96)a	5.81 (1.60)b	6.23 (1.20)a	3.67 (2, 192)*

Note. The values under the condition columns represent means of life satisfaction. Numbers in parentheses next to these means indicate standard deviations. Values adjacent to *F*'s represent degrees of freedom. Means that do not share a letter are significantly different, $p < .05$. * $p < .05$.

Reactions to aid

Ratings of well-being and life satisfaction were aggregated across conditions at pre-test, post-test, and the 3-week follow-up. Bivariate correlations with these composites and reported emotions of gratitude in response to aid, using the gratitude composite described earlier (i.e., summing the four feelings of grateful, appreciative, understood, and glad), at the respective data points (e.g., pre-test) were conducted. Grateful emotions in response to aid at all three data points were significantly correlated ($p < .01$) with positive affect, life satisfaction over the past few weeks, optimism about the upcoming week, and overall life satisfaction (see Table 5). When further analyses were conducted with these same well-being measures, but this time examining the relationship they had with negative reactions toward aid, namely feeling annoyed, embarrassed, or frustrated, significant positive correlations were not obtained. In fact, many of the correlations yielded were significantly negative. Feeling surprised in response toward aid was positively related to positive affect at both post-test ($r = .27$, $p < .01$) and the 3-week follow-up ($r = .25$, $p < .01$). Overall, data suggest that grateful emotions in response to aid are uniquely related to positive affect and several aspects of life satisfaction.

The investigation between feeling grateful toward aid and condition was furthered via ANCOVA's. A main effect for condition was not present at the post-test when using felt gratitude toward aid as the dependent measure. However, a main effect existed at the 3-week follow-up, $F(2,150) = 3.96$, $MSE = 1.29$, $p < .05$, $\eta^2 = .05$. Follow-up tests indicated that both the gratitude ($M = 3.76$, $SD = 1.36$) and control ($M = 3.88$, $SD = 1.01$) group reported significantly more grateful emotion in response to aid compared to the hassles group ($M = 3.22$, $SD = 1.43$), $F(1,150) = 6.96$, $p < .01$, $F(1,150) = 4.81$, $p < .01$, respectively.

Table 5

Bi-variate correlations of gratitude in response to aid and well-being at pre, post, and 3-week follow-up

Dependent variable	Pre-test	Post-test	3-week follow-up
Positive affect	.52	.69	.70
Past few weeks	.25	.38	.40
Upcoming week	.27	.37	.47
Life overall	.34	.35	.45

Note. Pre-test $N = 182$ – 220 , post-test $N = 190$ – 215 , 3-week follow-up $N = 183$ – 235 . $p < .01$ for all correlations.

Gratitude in response to aid as a mediator of experimental condition on general gratitude

Since the gratitude intervention was related to both greater gratitude in response to aid and greater gratitude in general (i.e., gratitude assessed daily) at the 3-week follow-up compared to hassles (but not to controls) a posteriori mediational analyses were conducted and restricted to only those participants in the gratitude and hassles conditions. We believed that those adolescents in the gratitude group reported greater general gratitude compared to hassles through an enhanced sense of gratitude in response to aid. Being more aware of and, consequently, grateful for various aspects of life that can be viewed as gifts may lead to greater overall gratitude.

We tested this hypothesis following the statistical specification of Baron and Kenny (1986). Three regression equations must be run to show mediation. Similar to all between group analyses conducted, general gratitude at pre-test was entered as the first step for the three subsequent regression equations. The first regression equation must show that the predictor (i.e., condition) has a significant effect on the mediator (i.e., gratitude in response to aid at the 3-week follow-up), which was indeed the case, $\beta=2.42$, R^2 change=.06, F change (1, 126)=9.33, $p<.01$. Since condition was dummy coded as 0=hassles and 1=gratitude, this indicates that the gratitude condition was related to enhanced gratitude in response to aid. The second regression equation must show that the predictor (i.e., condition) has a significant effect on the criterion variable (i.e., general gratitude at the 3-week follow-up), which also was the case, $\beta=.44$, R^2 change=.03, F change (1, 150)=6.93, $p<.01$. Considering the dummy codes for condition, the gratitude condition was related to enhanced general gratitude. The third regression equation must show that the relationship between the intervention and criterion is non-significant when controlling for the mediator. Therefore, we simultaneously entered both the intervention and gratitude in response to aid at the 3-week follow-up as the predictors and general gratitude at the 3-week follow-up as the criterion variable into a regression equation. As hypothesized, intervention was no longer a significant predictor of general gratitude, with a drop from $\beta=.44$ to $\beta=.30$. Sobel's test (Sobel, 1982) indicated that the reduction in intervention on general gratitude when controlling for gratitude in response to aid was significant ($z=2.78$, $p<.01$).

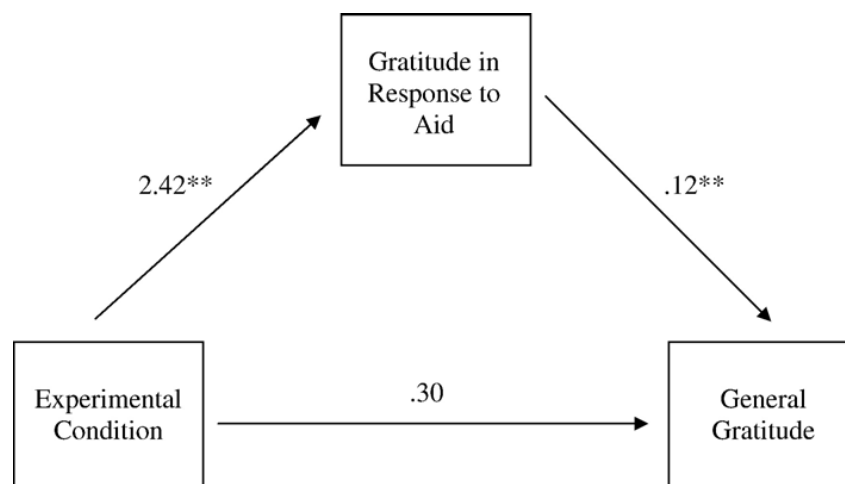


Fig. 2. Beta coefficients for the pathways among experimental condition, gratitude in response to aid, and general gratitude. ** $p<.001$.

Counting blessings in adolescence may be related to domain specific gratitude (e.g., feeling thankful in response to receiving aid) via prompting a broadened view of the specific instances of kindness in daily life. Recognizing the gift of aid—yet another blessing to be counted—may subsequently lead to greater gratitude. Enhanced general gratitude could be a natural byproduct of noticing and feeling grateful for specific blessings (see Fig. 2).

We recognize that gratitude in response to aid (i.e., the mediator) and general gratitude (i.e., the criterion) were measured contemporaneously. Therefore, the statistical tests presented here might be interpreted in either direction. To illustrate, converse to our hypotheses, it could be argued that with enhanced general gratitude one may start becoming more aware of and, consequently, grateful for various aspects of life that can be viewed as gifts, thus supporting Fredrickson's (1998) Broaden and Build Theory of Positive Emotions. Specific to our data, enhanced gratitude as it relates to the intervention effects may lead one to become more grateful and, subsequently, more aware of and grateful for the received aid. We disagree with this sequence of psychological events. Instead, it seems more logical to us that a general construct (e.g., overall gratitude) may be the result of a specific construct (e.g., a number of instances of gratitude moments; i.e., gratitude in response to aid), rather than vice versa.

Prosocial behavior

A prosocial composite score for pre-test, post-test, 3-week follow-up, and for all data points during the 2 weeks in between pre and post (i.e., days 1 through 8) was created and used as dependent variables. The composite variable for pre, post, and follow-up was created by summing the two items assessing prosocial behavior. Moreover, the 2-week aggregate was created by obtaining the mean of these variables combined. Correlations between these two items at each time were significantly correlated ($p < .01$). A main effect was not present for condition at either the 2-week aggregate, post-test, or 3-week follow-up, suggesting that counting blessings may be unrelated to prosocial behavior in an early adolescent population.

Discussion

Gratitude, in the form of counting one's blessings, has been shown to be related to subjective well-being (Emmons & McCullough, 2003; Watkins, 2004). However, until now, research examining this relationship had been restricted to adult populations. Though the correlates of life satisfaction within a middle school sample have been investigated (Huebner, Valois, Paxton, & Drane, 2006), a study employing the direct manipulation of gratitude and examining its relationship to well-being in an early adolescent sample has not been explored. Indeed, this is the very first such attempt of this nature that we are aware of.

In our sample of school-aged children, the results generally replicated those found by Emmons and McCullough (2003) with adults. Indeed, the majority of hypotheses were confirmed, suggesting that the gratitude induction was related to enhanced well-being, gratitude, and less negative affect. Specifically, a significant change was present at the 3-week follow-up for all dependent variables, in which the gratitude induction was related to optimism, overall life satisfaction, and domain-specific life satisfaction (e.g., school

experience, residency). The effect sizes were generally small to medium, and the differences were largest between the gratitude and the hassles condition. Somewhat unexpectedly, the ratings of the control group on negative affect were similar to the gratitude group. However, [Emmons and McCullough \(2003, Study 3\)](#) also found no differences in negative emotions between the gratitude condition and a control condition in adults with neuromuscular disease. A “positivity offset,” or a slight, positive bias in mood state characterizes most people most of the time ([Berntson & Cacioppo, 1999](#)), so it is not surprising that the control group would be relatively low in negative affect. Though the eta squared classifications are technically considered to be small (e.g., .01) to medium (e.g., .06), the percent of variance accounted for ranged from 3% to 9%. Given the multitude of influences on naturally occurring affect and well-being, this figure need not be seen as inconsequential nor does it deviate significantly from effect sizes in comparable studies conducted outside of highly controlled laboratory settings. In sum, these findings suggest that gratitude has both immediate and long-term effects on positive psychological functioning, though the exact mechanism for long-term gain is presently unclear.

The finding that the gratitude group reported greater satisfaction with their school experience at both the immediate post-test and 3-week follow-up compared to both the hassles and control condition is the most promising and exciting finding. A significant amount of high school students report a great degree of dissatisfaction with their school experiences ([Huebner, Drane, & Valois, 2000](#)). Children who are satisfied with their school experience will tend to look forward to going to school, enjoy school, find school interesting, feel good at school, and believe they are learning a lot. Moreover, school satisfaction is related to both academic and social success ([Verkuyten & Thijs, 2002](#)). Therefore, based on the present findings, instructing students to count their blessings daily for 2 weeks may, indeed, counter a negative cognitive appraisal of academic experience and possibly mitigate other potential negative outcomes (e.g., poor grades, absenteeism).

We are sensitive to the potential of context-specific or demand characteristics of the study setting. Is it possible that, because students were sitting in their classrooms while participating in the study, that they were primed by cues from the environment and counted their blessings for school-related topics? While plausible, we think this is unlikely. Using a similar-age sample [Gordon et al. \(2004\)](#) found that the most common gratitude themes were family, basic needs, friends, and teachers/school, in that order. Family members were cited nearly three times as often as teachers and/or school. Although we have not exhaustively coded all the blessings listed in our study, an examination of written themes suggests a similar patterning, with family, friends, material goods/basic needs (food, clothing), and teachers/education being listed in approximately the same order of frequency as was found in the Gordon et al. study. For example, one participant mentioned, on successive days, “great friends, my family, that I have a home, that my life is good, that I have a place to live, that I have a life worth living, for my education.”

Also notable were the increase in positive mental health and the enhanced relationship between gratitude in response to aid and well-being as a function of time. Exposure to the gratitude induction seemed to have a linear relationship with time, as reported well-being was greater at the 3-week follow-up compared to the immediate post-test. Such a relationship is consistent with [Gordon et al. \(2004\)](#). Specifically, when collecting data from children exposed to positive images of helping behaviors and heroism either one ([Saylor, Cowart, Lipovsky,](#)

Jackson, & Finch, 2003) or approximately 2 and a half months after the attacks of 9/11 those data collected after a greater delay indicated “close to a threefold increase in the frequency of gratitude...” (Gordon et al., p. 549), while those collected by Saylor et al. did not indicate such a relationship. This suggests that there may be benefits of positive exposure that were not evident immediately after the attacks but only after delay. The delayed response to the intervention is extremely interesting and leads one to ask the question, “What mechanism or processes may explain this finding?” One possible explanation could be the time required to *integrate* the intervention. It has often been observed that change requires not just effort, but a period of time to incorporate and adjust to the treatment (e.g., counting blessings). With patience and persistence, small changes can lead to big gains.

Just as happy people tend to be more sensitive to the rewards in their immediate environment (Gray, 1994), does counting one’s blessings for a specified period of time prime one to see the world through more thankful and appreciative lenses, which over time leads to more felt gratitude in general? Moreover, if counting blessings influences one’s schema to such a degree, what are the specific outcomes? Just as the experience of positive emotions (e.g., joy and contentment) has been shown to increase one’s thought–action repertoires (Fredrickson, 1998), perhaps felt gratitude would lead to outcomes pertinent to child and adolescent success within the schools (e.g., grade improvement, increased attendance, development and maintenance of positive peer relationships). Future research should examine such a possibility and consider the aforementioned outcome variables along with related others (e.g., detention, SAT scores, college acceptance rates) via a longitudinal design so as to measure change.

Future directions

Although some insight has been gained into the relationship between gratitude and subjective well-being in early adolescence, many questions remain unanswered. For example, when considering the efficacy of gratitude interventions there is some evidence that counting blessings once a week is more beneficial in well-being enhancement compared to those who engaged in the same behavior three times a week (Sheldon & Lyubomirsky, 2004). Perhaps less systematic practice in untrained individuals keeps the process fresh and meaningful. In the present study, we did observe that some participants demonstrated apparent frustration during the completion of measures and their repeated assessment. Consequently, as gratitude induction research in children and adolescents is in its infancy, research is needed concerning the systematic investigation of treatment frequency and duration. At what time does counting one’s blessings lose its “freshness?” Is this dependent on more basic personality dimensions such as conscientiousness or neuroticism? If one is high in dispositional gratitude, is counting one’s blessings more resistant to this adaptation? Or, conversely, would being dispositionally grateful lead one to tire of the practice even more rapidly because, presumably, such responses to life in general are naturally occurring? We did not measure dispositional gratitude in this study. Such moderator variables need to be addressed in future research.

Even though the maximum degree of an intervention should be administered in the initial stages of development (i.e., throw in the “kitchen sink”), as opposed to being concerned with dismantling (Weisz, Sandler, Durlak, & Anton, 2005), focused attention

must be given to the frequency of the gratitude listings *especially* when considering setting (e.g., a public school). Given the increasing demands of teachers and school psychologists and ever changing laws (e.g., Individuals with Disabilities Education Act 2004) (Bradley-Johnson & Dean, 2000), an intervention that is both efficacious and time sensitive needs to be implemented. Therefore, the identification of the optimal frequency of gratitude listings is imperative in order for the intervention to be both accepted and employed, with the former being imperative for the latter (Bordin, 1979).

Even more encouraging is that the results of this study suggest that there may be better and longer-lasting ways of instilling gratitude in children than the obligatory thank you note to relatives. The authors of children's books and articles in parenting magazines regularly encourage the cultivation of gratitude and thankfulness in children, and offer strategies for parental inculcation. Children ages 11–12 easily understood the instructions in the gratitude condition and readily generated blessings on a daily basis. In that counting one's blessings appears to be an effective intervention in inducing gratitude in children and adolescents and, subsequently, increasing life satisfaction, while simultaneously alleviating negative affect, school psychologists have an intervention that may ultimately increase the well-being and overall optimal functioning of students.

Although a greater understanding of gratitude in relation to well-being in children and adolescents has been gained, many questions remain unanswered. Of particular importance is the developmental trajectory, or well-springs, of gratitude in children and adolescents. To reiterate, research suggests that children do not begin to develop a sense of gratitude until approximately middle childhood (Emmons & Shelton, 2002). However, could this better be explained as having an interaction with age? That is, is gratitude more likely to lead to prosocial behavior as one ages and emerges from early adolescence and enters late adolescence? Given the lack of an association between gratitude and prosocial behavior in the present study, such a relationship is plausible. Therefore, future research should attempt to replicate these findings within a late adolescent sample (e.g., ages 14–18). Indeed, gratitude, being considered an attribution dependent emotion by some (Weiner, 1985), may be experienced to a greater degree by older adolescents due to them becoming more "other-centered" as they age, while simultaneously winning the battle of the imaginary audience (Elkind, 1981). Because early and late adolescents are considered to differ significantly within the domains of cognitive, emotional, and social functioning (Irwin, Burg, & Cart, 2002), such research is imperative to be conducted within *each* of these populations separately.

In addition, such an intervention may not solely produce intrapsychic gains but also stronger social bonds and peer relationships, as well as increasing prosocial behaviors. Positive gains may occur for both the direct recipients of the intervention and the entire student body at large. Gratitude's influence on the promotion of prosocial behaviors and being "other centered" may certainly have an enormously positive influence on the culture and environment of a school building. In line with the push for character education programs and the promotion of virtues such as respect for self and others, trustworthiness, loyalty, and honor, gratitude and expressing appreciation for being the beneficiary of a benefactors behavior is also seen as one of these sought after virtues that educational systems are attempting to foster in students (Lantieri & Patti, 1996). Expressing gratitude and saying "thank you" may be beyond simple manners.

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