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Gratitude is Associated with Greater Levels of Protective Factors and Lower Levels of Risks in African American Adolescents

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Abstract

The literature suggests gratitude is associated with positive youth development. The current study examined the relationship between gratitude and protective/risk factors among African American youth. Adolescents (N = 389; 50.4% males) ages 12 – 14 completed measures of gratitude (moral affect and life-orientation), protective factors (e.g., academic and activity engagement, family relationship), and high-risk behaviors (e.g., sexual attitudes and behaviors, drug/alcohol use). Results indicated greater moral affect gratitude was the only variable significantly associated with greater academic interest, better academic performance, and more extra-curricular activity engagement. Greater moral affect and life-orientation gratitude both significantly correlated with positive family relationship. Greater life-orientation gratitude was the only variable significantly associated with abstinence from sexual intimacy, sexual intercourse, likelihood of engaging in sex during primary school, and abstinence from drug/alcohol use. The findings suggest that moral affect gratitude may enhance protective factors while life-orientation gratitude may buffer against high-risk behaviors among African American youth.

Keywords

gratitude; protective factors; sexual behaviors; adolescents

African American youth evidence disproportionately high rates of negative indicators for sexual and reproductive health (CDC, 2011a, 2011b, 2011c). In 2009, African Americans accounted for 65% of the HIV diagnoses reported among U.S. individuals ages 13-24 (CDC, 2011a). The rates of chlamydia in the U.S. were approximately 12 times greater for African American adolescents ages 10-14 (199.7 per 100,000 cases) compared to non-Hispanic white youth (16.3 per 100,000 cases) in 2010 (CDC, 2011b). In 2009, U.S. birth rates for African American teens (59.0 per 1,000 females) were more than twice that of non-Hispanic white teens (25.6 per 1,000 females; CDC, 2011c).

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Traditionally, much of the literature on adolescent health has focused on negative indicators (e.g., prior abuse or trauma, low self-esteem, depression) of high-risk behaviors (e.g., Brown, Lourie, Zlotnick, & Cohn, 2000; Colon, Wiatrek & Evans, 2000; Hallfors et al., 2004), while protective factors have received less empirical attention. The emergence of positive psychology has shifted the traditional focus on dysfunction to the study of human characteristics that contribute to optimal functioning and resilience in adverse situations (Seligman, 1998). Seligman (1998) asserted that such factors could serve as buffers against physical, mental, and behavioral risks, and that fostering character strengths in youth may lead to a positive developmental trajectory. Yearley (1990) defined virtue or character strengths as “a disposition to act, desire, and feel that involves the exercise of judgment and leads to a recognizable human excellence or instance of human flourishing” (p. 13). The extent to which character strengths (e.g., gratitude) may be associated with adolescent protective factors (e.g., family support, academic achievement) and buffers against sexual-risk behaviors among African American youth warrants investigation.

The available evidence suggests that positive indicators of healthy youth development include sound judgment/impulse control (Malow, Devieux, Jennings, Lucenko, & Kalichman, 2001), self-regulation (Crockett, Raffaelli, & Shen, 2006), family support and communication (Dittus & Jaccard, 2000; Hutchinson, Jemmott, Jemmott, Braverman, & Fong, 2003), religiosity (McCree, Wingood, DiClemente, Davies, & Harrington, 2003), school connectedness (Blum & Ireland, 2004; Slap et al., 2003), love of learning, curiosity, leadership, and prudence (Ma et al., 2008). These protective factors have been found to be associated with a decreased likelihood of engaging in sexual-risk behaviors, cigarette smoking, and alcohol use (e.g., Blum & Ireland, 2004; Crockett et al., 2006; Hutchinson et al., 2003; Ma et al., 2008; McCree et al., 2003). Recent literature suggests that gratitude, a predisposition toward thankfulness and appreciation, is a promising character strength in positive youth development (Froh & Bono, 2011). Although emerging research has begun to link gratitude to adolescent well-being and health (e.g., Froh, Kashdan, Ozimkowski, & Miller, 2009; Froh, Yurkewicz, & Kashdan, 2009), the relationship between gratitude and risk behaviors among youth remains unexplored.

Emmons and Shelton (2002) theorized that gratitude is a positive universal characteristic present in all cultures and it is an integral part of most of the world's religions. As early as the 1950s, Klein asserted that gratitude was a capacity present from birth that developed in tandem with a child's cognitive and emotional systems (Klein, 1957). Moreover, Klein (1957) viewed gratitude as a hallmark of emotional maturity and a major source for the capacity to love. Rosenberg (1998) provided a framework for the investigation of gratitude by suggesting that gratitude could be studied as a feeling state, as a mood that could fluctuate, or as an individual's predisposition to experience gratitude in certain situations. McCullough, Kilpatrick, Emmons, and Larson (2001) conceptualized gratitude as a moral affect, suggesting that individuals scoring high in gratitude tend to recognize and respond with grateful emotion to the benevolent behaviors that contributed to one's positive experiences (McCullough, Emmons, & Tsang, 2002). According to McCullough and colleagues (2001), gratitude has three moral functions: 1) as a *moral barometer*, gratitude is an emotional response to the beneficent act of a moral agent; 2) as a *moral motive*, gratitude drives the beneficiary to respond prosocially towards the moral agent or other individuals; and 3) as a *moral reinforcer*, expressed gratitude enhances the likelihood that a benefactor will engage in future prosocial behaviors. Based on this conceptualization, gratitude is an emotion that instills a sense of connection to people and communities (Froh et al., 2011). Consistent with this conceptualization, gratitude has been positively associated with response to aid, social support, social integration, and levels of satisfaction with family, friends, school, self, community, and life among adolescents (Froh, Emmons, Card, Bono, & Wilson, 2011; Froh, Yurkewicz, & Kashdan, 2009; Park & Peterson, 2006).

Moral emotion gratitude also has been positively correlated with academic achievement and absorption in activities (Froh, Emmons, Card, Bono, & Wilson, 2011). These relationships are consistent with Fredrickson's broaden-and-build theory (1998, 2001). The theory postulates that gratitude broadens people's monetary thought-action repertoires and strengthens their enduring personal resources. According to this theory, a grateful person high in a moral motive would creatively consider a wide range of prosocial options that may promote the well-being of the benefactor or other individuals (Fredrickson, 2001). Over time, the broadened thoughts and actions will strengthen social bonds and friendships leading to enduring psychological and social resources. These resources, in turn, will broaden into other aspects of adolescent wellbeing, such as academic achievement and absorption in activities. Froh and colleagues (2011) further assert that the social resources developed by individuals high in gratitude may influence motivation and intrinsic pursuit of aspirations and goals. Although gratitude, defined as a moral emotion, appears to be associated with protective factors against sexual-risk behaviors (e.g., strong family relationship, school connectedness, academic success, involvement in extra-curricular activities), gratitude as a character strength is underexplored in youth (Froh & Bono, 2011).

Beyond moral emotion, the literature suggests gratitude is not simply the ability to detect beneficence on the part of others towards oneself. Wood, Froh, and Geraghty (2010) proposed a broader view of the construct in his life-orientation conceptualization of gratitude. Life-orientation operationalizes gratitude as a tendency towards focusing and appreciating the positive aspects of life, people, and the world. This broadened view of the construct offers a more comprehensive conceptualization of gratitude that covers reported gratitude towards social and non-social sources (Emmons & McCullough, 2003; Gordon, Musher-Eizenman, Holub, & Dalrymple, 2004). Wood and colleagues (2010) further assert that life-orientation gratitude is a dispositional (trait) tendency, an internal predisposition towards experiencing gratitude frequently, intensely, and across a generalized set of stimuli. Consistent with this definition, gratitude has been correlated with a wide range of adaptive personality, well-being, and health constructs (e.g., McCullough, Tsang, & Emmons, 2004; Wood, Maltby, Steward, Linley, & Joseph, 2008). For example, gratitude has been investigated as an alternative to materialism (Polak & McCullough, 2006), an integral part of subjective well-being (Froh, Sefick, & Emmons, 2008), a correlate to positive coping (Wood, Joseph, & Linley, 2007), a buffer against depression (Froh et al., 2011), and an adaptive mechanism that supports survival (McCullough, Kimeldorf, & Cohen, 2008). These relationships are supported by Fredrickson's broaden-and-build theory (1998, 2001). The theory postulates that for individuals high in life-orientation gratitude, the habitual modes of broadened cognitive and behavioral activities will aggregate into enduring resources and resiliency that can be drawn on when confronted with stress, adversity, and social challenges (Fredrickson, 2004; Tugade & Fredrickson, 2002; Wood et al., 2010). Gratitude broadens problem-solving strategies (Fredrickson & Branigan, 2005) and may serve as an insulator against negative emotions and life events (Frederickson, Mancuso, Branigan, & Tugae, 2000; Tugade & Fredrickson, 2004).

Froh and colleagues (2010) further assert that gratitude is a critical social skill that can broaden adolescents' horizons and promote successful navigation through developmental obstacles, allowing youth to purposefully approach the future. Conceptualizing gratitude as a life-orientation that generalizes across stimuli, broadening young people's modes of thinking and action may confer protection against harmful actions such as sexual-risk behaviors and drug use among adolescents. Although studies have begun to examine the association between character strengths (e.g., love of learning, curiosity, leadership, prudence, religiosity) and sexual-risk behaviors among adolescents (Ma et al., 2008; McCree et al., 2003), the protective benefits of gratitude remain uninvestigated.

If gratitude does confer resilience among youth, examining the relationship between gratitude and protective factors/risk behaviors among African American adolescents may be an important public-health objective. The aim of the current study was to investigate the relationship of gratitude to both protective and risk factors among African American adolescents. Because gratitude is a multifaceted emotion that requires social-cognitive appraisal of the value of a benefit, Emmons and Shelton (2002) assert children may not reliably experience gratitude and benefit from the positive emotion until middle childhood (ages 7-10) while Froh, Bono and Emmons (2010) suggest genuine gratitude emerges in early adolescence (ages 10-14). In the current study, gratitude was examined among youth ages 12-14. Gratitude was defined using McCullough's framework of moral affect (McCullough et al., 2001) and Wood's expanded life-orientation conception (Wood et al., 2010). It was hypothesized that emotional gratitude would be positively associated with protective factors (e.g., academic interest, academic achievement, extra-curricular activities, and family relationship) and life-orientation gratitude would be negatively correlated with high-risk behaviors (e.g., sexual intimacy, sexual intercourse, likelihood to engage in sexual behaviors, and drug/alcohol use).

Methods

Participants

A purposive sample of 389 African American adolescents (50.4% males), ages 12 – 14 ($M \pm SD$ age = 12.91 $\pm$ 0.75) participated in the present study. Apart from the age and race/ethnicity requirement, there were no other inclusion criteria for study participation. Adolescents were recruited from 3 middle schools serving predominately African American students (over 99% of the student body). The schools were situated in low-income urban neighborhoods with 93% of the student population being eligible for free or reduced price lunch programs. The average standardized exam scores of the students in all three schools were below the average state test scores on all subjects (percentage of students at or above proficiency -Language: schools' average = 31%, state = 50%; Math: schools' average = 51%, state = 59%; Science: schools' average = 14%, state = 43%). All student participants provided child assent, and their parents/guardians gave parental/guardian consent for study participation.

Procedure

Participants in the current study were part of a larger investigation focused on HIV prevention. The risk and protective factor surveys for the present study were part of a baseline assessment package for the HIV prevention study. The gratitude survey was administered specifically for the present study. Participants completed a survey on the demographic and outcome variables first, followed by the gratitude survey on a separate day. The assessments were conducted either in school, at a community research center, or at the adolescent's home. Each assessment was administered individually, with African American male assessors working with boys and African American female assessors working with girls. The assessments were completed on tablet computers using Audio-Computer Assisted Self-Interview (ACASI) software (NOVA Research Systems, Questionnaire Development System). The adolescents used headphones to hear a female voice reading survey questions and responded by choosing an option on the computer screen. Prior to completing the first interview, participants were oriented to the computer and ACASI software, and had any questions answered. Following a brief ACASI tutorial, adolescents completed the survey privately with a study staff member available nearby to answer questions. Adolescents received an honorarium of \$10 for each assessment.

Measures

A scale from the Values in Action (VIA) Inventory of Strengths was used to assess gratitude. The VIA Inventory of Strengths is a survey developed by the VIA Institute to index self-endorsed items related to strength of character. The VIA survey is widely utilized by researchers in the field of positive psychology and has been cited in more than 150 published reports (Diamond, O'Brien-Malone, & Woodworth, 2010). The inventory uses a 5-point Likert-type scale (1 = "very much unlike me" to 5 = "very much like me") to assess character strengths on 24 scales (Peterson & Seligman, 2004). Each scale consists of 10 items and the responses are averaged within the scales. Satisfactory internal consistency of all the scales have been demonstrated previously (alphas $\geq .70$), and the test-retest correlations are $>.70$ (Park, Peterson, & Seligman, 2004). For the present study, the gratitude scale was classified into two subscales, moral affect and life-orientation gratitude. The scores for each gratitude subscale were averaged over 5 items. The following are sample gratitude items: "If I receive a gift, I always let the person who gave it know I appreciated it" (moral affect); "I always express my thanks to people who care about me" (moral affect); "When I look at my life, I find many things to be grateful for" (life-orientation); "I feel a profound sense of appreciation every day" (life-orientation).

The outcome measures consisted of 4 protective factors and 5 risk factors. The protective factors included the following:

1. Academic Interest – participants were provided with a list of 6 typical school subjects (e.g., math, English) and asked to check all the subjects they enjoy.
2. Academic Achievement – the average of math and English grades on the most recent report card. The scale ranged from 0 to 4.
3. Extra-curricular Activities - a subset of questions from the Teen Activities and Attitudes Study survey developed by Mathematica Policy Research, Inc. (1998) was employed to assess engagement in extra-curricular activities. Participants were asked to mark all the activities they engaged in during school and/or after school from a list of ten activities (e.g., sports team, boys/girls scout).
4. Family Relationship – a survey from the Teen Activities and Attitudes Study (1998) questionnaire was used to assess family relationship. Participants were asked to select a family member that they felt closest to and respond to each statement/question on their relationship with the family member. For 9 statements, respondents rated each item on a three-point scale (1 = mostly true, 2 = sometime true, 3 = hardly true). Sample statements include "When I do something wrong that is important, this family member helps me understand why it is wrong" and "This family member is warm and loving toward me". The scores for these 9 statements were reverse coded (e.g., 1=3 and 3=1) such that higher scores indicate better family relationship. The survey also includes 4 questions with responses on a three- or four-point scale ranging from 0-2 or 0-3. In an effort to provide equal weight for each item in data reduction, these responses were converted to a three-point scale ranging from 1-3 to be consistent with the previous 9 statements. For example, the responses (0 = never, 1 = hardly ever, 2 = sometimes, 3 = often) to the question "How close do you feel to this family member" were recoded to a three-point scale by combining "never" and "hardly ever" into a value of 1. On one statement, respondents identified up to 8 listed social activities and topics of communication that they had engaged in with the family member in the past month. This statement was subdivided into two domains in the current study, one on social activities (5 items) and the other on topics of communication (3 items). Both domains were scored 1 for no social activity or communication activity endorsed, 2 for 1 or 2

items endorsed, and 3 for 3 or more items endorsed. The resulting questionnaire contained 15 statements/questions. The scores for all the items were summed for a total score that can range from 15 – 45, with higher scores reflecting stronger positive family relationship.

The risk factors consisted of an author constructed survey to assess five domains: 1) sexual intimacy (“Have you ever fooled around with another person? Fooling around can mean touching or kissing in a sexual way”); 2) sexual intercourse (“Have you ever had sex with another person? When we say sex, we mean sexual activities such as vaginal sex or anal sex”); 3) likelihood of engaging in sexual intimacy during secondary school (“What is the chance that you will fool around with another person before you finish high school?”); 4) likelihood of engaging in sex during secondary school (What is the chance that you will have sex with another person before you finish high school?”); and 5) drug/alcohol use (“Have you ever tried any type of illegal drug such as alcohol (juice), marijuana (weed), cocaine (rock), etc.”). Respondents endorsed yes or no to questions 1, 2, and 5. The responses to items 3 and 4 were in a three-point scale (0 = definitely will not do it, 1 = maybe will not do it, 2 = definitely will do it). These responses were converted to dichotomous variables by combining “maybe” and “definitely will do it” into a single category. Using the ACASI generated skip pattern, questions 3 and 4 were presented only to adolescents who endorsed “no” on the sexual intimacy or sexual intercourse questions respectively.

Data Analyses

Standard statistical procedures were utilized to ensure that the data met the basic statistical assumptions for the analyses (absence of outliers, homogeneity of variance, absence of multicollinearity and singularity). Descriptive statistics were utilized to characterize the gratitude and protective/risk variables of the study sample. For informational purposes, we conducted zero-order correlations between each of the gratitude variables and each of the outcome variables. The dichotomous risk factors were dummy coded (0 = no, 1 = yes; or 0 = definitely will not do it, 1 = maybe or definitely will do it).

For the planned analyses of the hypotheses, stepwise multiple regression analyses were employed to test the relationships of the gratitude variables with each continuous protective factor. Because the two gratitude variables are highly correlated ($r = .68$) and the risk factors were measured in a nominal scale, stepwise discriminant function analyses were utilized to assess the relationships of the gratitude variables with each dichotomous risk factor independent of the shared variance between the two gratitude measures.

Results

Scores on the gratitude and outcome variables are illustrated in Table 1. Notably, the adolescents in our study sample had poor math and English grade point averages (1.56 on a 4.00 scale). As expected, more participants in this age range endorsed engaging in sexual intimacy (61.95%) compared to engaging in sexual intercourse (22.37%). Of the adolescents who had not engaged in intercourse, 41.39% reported they “maybe” or “definitely” will have sex while in middle or high school. Twenty-one percent of the total sample reported having used illegal drugs or alcohol.

Correlations

Zero-order correlations between the gratitude variables and between each gratitude variable and each outcome variable were performed. As expected, a large association was observed between moral affect and life-orientation gratitude ($r = .68$). The gratitude variables had small to medium associations with most of the outcome variables (see Table 2). Higher

scores on the gratitude variables were generally associated with greater interest in school, better academic performance, more involvement in extra-curricular activities, stronger family relationships, abstinence from sexual intimacy and sexual intercourse, lower likelihood of engaging in sex while in secondary school, and abstinence from drug and alcohol use.

Protective Factors

Moral affect gratitude was the only variable significantly related to academic interest [$r = .18$, $F(1, 387) = 13.48$, $p < .001$], academic performance [$r = .12$, $F(1, 387) = 5.22$, $p < .05$], and extra-curricular activities [$r = .25$, $F(1, 387) = 24.87$, $p < .001$] in the stepwise multiple regressions (see Table 3). Consistent with the hypothesis, higher scores on moral affect gratitude were associated with greater academic interest, better academic performance, and more engagement in extra-curricular activities. Life-orientation gratitude was not independently associated with the protective factors beyond the shared variances with moral affect gratitude. Both moral affect gratitude [$r = .17$, $F(2, 386) = 6.63$, $p < .05$] and life-orientation gratitude [$r = .16$, $F(2, 386) = 6.23$, $p < .05$] were significantly associated with positive family relationship. With moral affect gratitude entered as the first step in a stepwise multiple regression model, including life-orientation gratitude in the second step significantly increased the variance explained by 1.3%.

Risk Factors

Stepwise discriminant function analyses revealed that life-orientation-gratitude was the only variable independently related to reported sexual intimacy [Wilks' Lamda = .963; $F(1, 387) = 14.72$, $p < .001$], sexual intercourse [Wilks' Lamda = .982; $F(1, 387) = 7.13$, $p < .01$], likelihood of engaging in sex while in secondary school [Wilks' Lamda = .899; $F(1, 300) = 33.62$, $p < .001$], and drug and alcohol use [Wilks' Lamda = 0.961; $F(1, 387) = 15.84$, $p < .001$]. Consistent with the hypothesis, higher levels of life-orientation gratitude were associated with lower risk on each of the factors.

Discussion

Gratitude has been conceptualized as a moral affect, as well as a life-orientation toward being grateful for the positive aspects of life (McCullough et al., 2001; Wood et al., 2010). Results of our study suggest these two conceptualizations of gratitude may have differential associations with adolescent well-being. With the exception of the association between life-orientation gratitude and family relationship, our results indicate moral affect gratitude is positively correlated with protective factors and life-orientation gratitude is negatively associated with risk factors. Although moral-affect and life-orientation gratitude are highly correlated, the pattern of results suggests the two conceptualizations of gratitude may be distinct constructs with different action tendencies.

Moral affect gratitude is associated with greater academic interest, better academic performance, participation in extra-curricular activities, and stronger family relationships. These findings are consistent with existing studies indicating that gratitude is correlated with enhanced academic achievement, absorption in activities, and satisfaction with school, family and friends (Froh, Emmons, Card, Bono, & Wilson, 2011; Froh, Yurkewicz, & Kashdan, 2009). For example, expression of gratitude via generating gratitude lists resulted in more satisfaction with school among adolescents (Froh et al., 2008). Additionally, gratitude expressions have been demonstrated to result in greater self-efficacy and social worth (Grant & Gino, 2010), which may lead to better academic achievement and school/extra-curricular activity engagement.

Wood and colleagues (2008) assert that individuals high in moral affect gratitude have schematic biases toward appraising the aid of others as more valuable, costly, and altruistic. As a result, these individuals are more attuned to the helpful actions of others and more likely to engage in the reciprocity of aid. This framework is supported by Weiner's attributional model, which emphasizes the role of causal appraisal on responses (Weiner 1985). If the expression of gratitude is mediated by schematic processing, it is plausible that these characteristic schemas may generalize to other aspects of cognitive processing. Through similar interpretive lens, adolescents high in moral affect gratitude may view enrichment opportunities such as education and extra-curricular activities as more valuable and put forth greater effort in the engagement of these activities (e.g., greater attention to the opportunities, positive appraisal, greater behavioral engagement). This is consistent with the broaden-and-build theory suggesting that the schematic bias associated with moral affect gratitude may produce broad-ranging thoughts and actions that may influence the pursuit of intrinsic goals and other higher-order needs (Fredrickson, 2001; Froh, Emmons, Card, Bono, & Wilson, 2011). Further investigation is needed of a possible model, in which characteristic interpretive biases mediate the relationship between moral affect gratitude and protective factors.

As indicated, a different pattern of associations was observed between life-orientation gratitude and the outcome variables. The results indicate life-orientation gratitude is related to a lower likelihood of engaging in sex during primary school, and abstinence from sexual intimacy, sexual intercourse and drug/alcohol use. The life-orientation conception of gratitude posits that grateful individuals are primed to appreciate the positive in the world and attuned to the fortunate circumstance of one's condition (Wood et al., 2010). This higher appreciation would in turn lead to personally and socially productive behaviors such as avoidance of high-risk behaviors. According to the broaden-and-build theory, positive life-orientation broadens cognition and builds enduring personal resources such as mindfulness and resilience (Fredrickson, 2001). These resources can function as reserves that can be drawn on by adolescents when confronted with challenging social and developmental issues. The upward spirals of gratitude, conceptualized as life-orientation, may broaden the mindset of youth, strengthen coping skills, and confer protection against high-risk behaviors.

This premise may be supported by Wood and colleagues' (2010) coping hypothesis. The hypothesis posits that individuals with high levels of gratitude have a greater tendency to seek out emotional and instrumental support, and utilize positive coping strategies (e.g., positive reinterpretation and growth, active coping) rather than behavioral avoidance (e.g., disengagement, substance use) when confronted with social challenges (Wood, Joseph, & Linley, 2007). In a study to examine coping style as a psychological resource of grateful people, Wood and colleagues (2007) observed positive correlations between gratitude and seeking emotional and instrumental support, positive reinterpretation and growth, active coping, and planning. Gratitude was negatively associated with behavioral disengagement, self-blame, substance use, and denial. In our study, adolescents scoring high in life-orientation gratitude may have utilized positive coping strategies to manage the social challenges of high-risk situations.

Results of this investigation should be interpreted with caution given the exploratory nature of the study. The cross-sectional design limits the ability to make causal inferences. Furthermore, the significant correlations observed in the current study are small to medium ($r = -.32$ to $.12$) and the percentage of explained variance in the analyses is low (Cohen, 1988). Additional studies are warranted to investigate the validity of the current results.

There are additional limitations to this study. A potential concern of the research design is the reliance on self-report data. It is possible that the current findings were influenced by

social desirability and shared-reporter variance. Our findings reflect data from African American adolescents in the southern U.S. utilizing purposive sampling. These results may not generalize to adolescents from different ethnic backgrounds and in other regions of the U.S. and the world. Furthermore, participants in the study were in their early adolescent years (ages 12-14). Future research should include older teens (e.g., ages 15-18), as it is possible that different patterns of gratitude may be more protective or salient at various stages of adolescent development. Despite these limitations, our results provide valuable information on the potential differential pattern of associations between two conceptualizations of gratitude and adolescent protective/risk factors.

Previous research with youth has focused on the association between gratitude and protective factors. To our knowledge, the present study is the first investigation to examine the relationship between gratitude and risk taking behaviors (e.g., sex and drug) among adolescents. Additionally, this is the first study to investigate the pattern of associations between two conceptualizations of gratitude and protective/risk factors among African American adolescents. Although exploratory in nature, our data indicate that moral affect gratitude is associated with positive aspects of adolescent growth while life-orientation gratitude buffers against negative developmental trajectory. The results suggest the benefits of gratitude deriving through the broaden-and-build process may be dependent on the nature of the gratitude construct. More research is warranted to further investigate the observed differential pattern of associations between gratitude and adolescent outcomes.

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Table 1

Scores on the Predictive and Outcome Variables

Variables	Scores (n = 389)
Gratitude Variables^a	
Moral Affect Gratitude ^b	4.08±.56
Life-Orientation Gratitude ^c	4.03±.60
Protective Factors^a	
Academic Interest ^d	3.27±1.30
Academic Performance ^e	1.56±1.51
Extra-curricular Activities ^f	2.24±1.46
Family Relationship ^g	34.78±5.27
Risk Factors	
Engaged in Sexual Intimacy	
Yes	61.95%
No	38.05%
Engaged in Sexual Intercourse	
Yes	22.37%
No	77.63%
Likelihood of engaging in Sexual Intimacy	
During Secondary School ^h	
Maybe or Definitely Will Do It	37.84%
Definitely Will Not Do It	62.16%
Likelihood of engaging in Sex During Secondary	
School ⁱ	
Maybe or Definitely Will Do It	41.39%
Definitely Will Not Do It	58.61%
Drug/Alcohol Use	
Yes	21.34%
No	78.66%

Note.

^aScores presented in Mean±SD.

^bRange 1.4 – 5.0.

^cRange 1.8 – 5.0.

^dNumber of interested school subjects (range 0-6).

^eMath and English grade point average (range 0-4).

^fNumber of extra-curricular activities (range 0-6).

^gQuality of relationship with household adult (range 19-44).

^hn=148.

$i_{n=302}$.

Table 2

Zero-order Correlations Between Two Measures of Gratitude and the Protective and Risk Factors (n=389)

Dependent Variables	Moral Affect Gratitude	Life-orientation Gratitude
Protective Factors		
Academic Interest	.18 **	.18 **
Academic Performance	.12 *	.07
Extra-curricular Activities	.22 **	.16 **
Family Relationship	.28 **	.28 **
Risk Factors		
Sexual Intimacy	-.16 **	-.19 **
Sexual Intercourse	-.13 *	-.14 *
Likelihood of engaging in Sexual Intimacy During Secondary School ^a	-.16	-.16
Likelihood of engaging in Sex During Secondary School ^b	-.23 **	-.32 **
Drug/Alcohol Use	-.16 **	-.20 **

Note.

*
 $p < .05$.**
 $p < .01$.^a
n=148.^b
n=302.

Table 3

Stepwise Multiple Regression Analyses With Two Measures of Gratitude and Four Protective Factors

Dependent Variable	Step	Gratitude Variable Entered	B	SE		R ²
Academic Interest	1	Moral Affect Gratitude	.39	.11	.18**	.03**
Academic Performance	1	Moral Affect Gratitude	.17	.07	.12*	.01*
Extra-curricular Activities	1	Moral Affect Gratitude	.55	.11	.25**	.06**
Family Relationship	1	Moral Affect Gratitude	1.39	.54	.17*	
	2	Life-orientation Gratitude	1.44	.58	.16*	.09**

Note.

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

Table 4

Stepwise Discriminant Function Analyses With Two Measures of Gratitude and Four Risk Factors

Dependent Variable	Step	Gratitude Variable Entered	Model Canonical Correlation	F Value
Sexual Intimacy	1	Life-orientation Gratitude	.19	14.72**
Sexual Intercourse	1	Life-orientation Gratitude	.13	7.13**
Likelihood of Engaging in Sex During Primary School	1	Life-orientation Gratitude	.32	33.62**
Drug/Alcohol Use	1	Life-orientation Gratitude	.20	15.84**

Note.

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