

Understanding Gratitude, Curiosity and Life Satisfaction in College

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ABSTRACT

The purpose of this study was to examine the relationship between curiosity, gratitude, and life satisfaction in undergraduate college students. It was hypothesized that there would be a significant relationship between gratitude, curiosity, and satisfaction with life. College students from a southeastern college were recruited via email, in-class announcements, and throughout campus via QR codes to participate in the study. A total of 300 undergraduate students consented to participate in the research study and 231 completed the surveys. Participants completed surveys assessing curiosity, gratitude, and satisfaction with life. Data was analyzed using descriptive statistics, Pearson's r correlations, and separate one-way ANOVAs to determine group differences in gratitude, curiosity, and satisfaction with life. Hedge's g effect sizes were calculated as well. Gratitude was positively related to curiosity ($r = 0.20$), and satisfaction with life ($r = 0.36$). Furthermore, women exhibited greater gratitude as well as satisfaction with life when compared to men, [$F(2,230) = 14.40, p < .001$]. These results are consistent with the hypotheses and will be discussed in regard to previous research and future application.

Keywords: mental health; college; Generation Z; positive psychology

Life at college is meant to serve as a time of development from adolescence to adulthood. However, research indicates that college is a time of unwellness in terms of mental, physical (i.e., binge drinking, poor sleep habits, poor diet), social, emotional, and financial difficulty (American College Health Association [ACHA], 2014; Mallett et al., 2013). For example, today's generation of college students exhibited greater isolation, stress, anxiety, depression, suicide ideation and attempts than previous college students (Collins et al., 2018; Twenge, 2017; Twenge et al., 2018). College students also have been found to have a higher prevalence of obesity, type 2 diabetes, stroke, and heart disease, lower physical activity, and poorer sleep than previous generations (Barsell et al., 2018; Becker et al., 2018; Clarke et al., 2017). As high school students progress to college, they tend to struggle with self-regulation of healthy emotions and behaviors, which has been cited as one of the most important resources for college student success (Nandagopal & Ericsson, 2012). Self-regulation is a student's ability to set health-related goals, engage in behavior to achieve those goals, monitor success towards those goals, and adjusting both behaviors or goals when needed (Carver & Scheier, 2012). College students must learn to live away from home, socially engage with new friends, manage their academic and extracurricular schedules, all while balancing cognitive, emotional, and behavioral health (Blake et al., 2018). Although self-regulation is a limited internal resource, it can be enhanced through cognitive and behavioral techniques (Biber & Ellis, 2017). One model that promotes positive cognitive, emotional, and behavioral self-regulation is the Broaden and Build Model.

LITERATURE REVIEW

Although students experience a myriad of difficulties while transitioning to life at college, the Broaden and Build Model (Fredrickson, 2004) helps explain how positive emotions may offset such difficulties. The Broaden and Build Model proposes that positive emotional expression broadens potential thought-action repertoires in response to a given situation. For example, in a moment of joy, optimism, or gratitude, a college student may feel more motivated, inclined to participate in an activity, become thoughtfully outgoing, selfless, generous, or effortful to persevere, to name a few. On the contrary, negative emotions, such as fear, often lead to the narrowing of thought-action repertoires. A college student who is afraid of transitioning to life at college may avoid orientation activities or withdraw from difficult classes. All of these responses are defined by escape due to fear. While negative emotions used to serve to preserve life (i.e., fear of a predator leading to an attempt to escape), such responses are not often needed in fear-inducing situations on a college campus (i.e., fear of public

speaking in class) (Fredrickson, 2013). Research found that positive emotional expression, social-emotional wellness, and emotional intelligence are all important to collegiate success (Mofidi et al., 2014; Saunders-Scott et al., 2018). Positive emotions that have gained momentum in research are gratitude and curiosity.

Gratitude is a positive feeling that is attributed to receiving a benefit from the actions of another person or the acknowledgement of some good fortune due to another (Emmons & McCullough 2003; Fredrickson, 2013). Gratitude was associated with a variety of physical, emotional, mental, and social benefits (Emmons et al., 2019). For example, gratitude in college students was associated with lower stress, anxiety, and depression (Bono & Froh, 2009; Watkins et al., 2015; Wood et al., 2009). Furthermore, gratitude was related to sleep quantity and quality, energy levels, heart health, and longevity in college students and young adults (Bussing et al., 2014; Huffman et al., 2015; Mills et al., 2015). Gratitude broadens and builds thought-action repertoires through the expression and action of kindness, joy, and care to others (Fredrickson, 2013). Gratitude has the potential to instill resilience in college students to protect against potential difficulties or hardships associated with transition to college (Wilson, 2016). Another important tenet that promotes broadening and building of thought-action repertoires is curiosity.

Curiosity is a disposition that is impacted by emotional states and stimulated by the search for novel sensations and experiences (Karwowski, 2012). As such, curiosity could be influenced by the broadening and building of positive emotions, such as gratitude. Kashdan and Silva (2009) defined curiosity as the recognition, pursuit, and intense desire to explore novel, challenging, and uncertain events. Curiosity motivates people to “act and think in new ways and investigate, be immersed, and learn about whatever is the immediate interesting target of their attention...by focusing on the novelty and challenge each moment has to offer, there is an inevitable (however slight) stretching of information, knowledge, and skills” (Kashdan & Silva, 2009; p. 368). In line with the Broaden and Build Model, curiosity was associated with plasticity and openness to experience (DeYoung et al., 2008; Gilson & Madjar, 2011). College students who are curious express more positive emotions and acted with greater resilience (Fredrickson, 2004). Research also indicated a positive relationship between curiosity, self-regulation, and satisfaction with life in young adults (Peterson et al., 2007; Thoman et al., 2011). Individuals who participated in a gratitude intervention were more likely to be open to new experiences, have positive experiences, and positive evaluations about themselves (Kashdan et al., 2013; Senf & Liao, 2012).

Life satisfaction is a central component of well-being (Diener & Lucas, 1999). Satisfaction with life can be described as, “a judgmental

process in which individuals assess the quality of their lives on the basis of their own unique set of criteria” (Pavot & Diener, 1993, p. 164). Initial research with college athletes found a positive relationship between life satisfaction and gratitude (Gabana et al., 2017). Both gratitude and satisfaction with life are subjective experiences requiring personal awareness. Initial research indicated that character strengths, such as gratitude and curiosity, are strongly associated with life satisfaction and the pursuit of fulfillment in everyday life in college students (Park et al., 2004). However, this has not been substantiated with college students. Satisfaction with life in college was associated with a variety of constructs, including self-efficacy, interpersonal relationships, academic performance, and campus involvement (Gutierrez et al., 2018; Lee et al., 2014). Time involved in texting, social networking, solitary activities, and television was also negatively associated with life satisfaction in college (Coccia & Darling, 2014). College-student life satisfaction was related to resiliency and a search for meaning in life, and negatively associated with stress (Lau et al., 2018; Puri et al., 2016). Initial interventional research supported the impact of positive emotional training on life satisfaction, however, further examination of the relationship between variables is needed (Proyer et al., 2013).

While initial research supports the broadening and building of thought-action repertoires through gratitude and curiosity, the relationship between such tenets with life satisfaction in the current generation of college students is yet to be examined. It is important to understand the prevalence of various positive emotions in the current generation of college students and how such emotions may be associated with life satisfaction. The purpose of this present study was to examine the relationship between gratitude, curiosity and satisfaction with life in college.

RESEARCH METHOD

Upon IRB approval, participants were recruited from classes at a southeastern college in the United States. Participants were recruited via email and face-to-face at the beginning of various undergraduate courses. Through email, participants were sent a letter of interest that described the study along with a link to a Qualtrics survey. Participants who were recruited face-to-face were able to participate via a QR code. A QR code is a form of barcode that participants could scan using their smartphone camera. Following recruitment in undergraduate classes, the principal investigator left the classroom so as to not pressure students to participate. Participants who participated in classes completed the surveys on their smartphone using the QR code link. The Qualtrics survey contained a demographic survey, the GQ-6, SWLS, and the CEI-II. Participants were made aware that

participation was completely voluntary. They were allowed to skip any questions or discontinue participation at any time without penalty. Participants were not incentivized or rewarded for participation.

Measures

The following assessments were administered via a Qualtrics survey via QR code or email. These assessments were administered as one survey that took less than ten minutes to complete.

Demographic Questionnaire.

Participants responded to questions regarding solicited self-reported gender, race and/or ethnicity, and college grade classification (i.e., freshman, sophomore, junior, senior). For gender, participants responded by identifying as man, woman, or other.

Gratitude Scale-6 (GQ-6).

The Gratitude Questionnaire-Six-Item was a six-item self-report questionnaire that assesses individual feelings of gratitude in daily life (Emmons, McCullough, & Tsang 2003). All items were assessed on a 7-point Likert-type scale from strongly disagree to strongly agree. The GQ-6 has strong Cronbach alpha estimates ($\alpha = 0.72$). Research also exhibited significant correlations between gratitude and positive affect ($r = 0.31$) and life satisfaction ($r = 0.53$) (Kashdan et al., 2009).

Satisfaction with Life Scale (SWLS).

The Satisfaction with Life Scale (Diener et al., 1985) was a 5-item scale designed to measure global judgments regarding one's life satisfaction. All five items were measured on a 7-point scale from strongly disagree (1) to strongly agree (7). The scale was scored by summing responses to the five items, with a total possible score of 35, which indicated extreme satisfaction with life. The SWLS had strong scale reliability ($\alpha = 0.86$), negative correlations with anxiety ($r = -0.41$) and depression ($r = -0.43$), and acceptable convergent validity (Maroufizadeh et al., 2016).

Curiosity and Exploration Inventory-II (CEI-II).

The Curiosity and Exploration Inventory measured stretching, or the motivation to seek out new experiences, as well as embracing, or the willingness to embrace novel and unpredictable everyday life experiences (Kashdan et al., 2009). The CEI-II consisted of 10 items, five of which measure stretching, which was a sub-trait of curiosity, and five of which measured embracing, which is a sub-trait of curiosity. The CEI-II had strong scale reliability ($\alpha = 0.90$), internal reliability via relationships with intrinsic

motivation, reward sensitivity, and openness to experience, and incremental validity (Kashdan et al., 2009; Ye et al., 2015).

Participants

Undergraduate students from a southeastern college in the United States were recruited via university email to participate in the study. The primary investigator received all student email addresses from the university student advisors. Participants were also recruited verbally through announcements at the beginning of class in various undergraduate courses after the approval of the instructors. Participants were also recruited throughout the campus library, in the campus café, and recreation center through advertisement signs. Participants were emailed a letter of interest which contained a link to the informed consent and Qualtrics survey. When recruited in class, participants were able to participate through the use of a QR code. A QR code is a form of barcode that participants could scan using their smartphone camera. Upon scan of the QR code, participants completed the survey anonymously on their smartphones. A total of 300 undergraduate students consented to participate in the research study.

Hypotheses Examples

The following hypotheses were proposed:

- H₁: Curiosity and gratitude are positively related to life satisfaction.
- H₂: There are significant differences between gender for curiosity, gratitude, and satisfaction with life.

Data Analysis

Data was analyzed using SPSS version 21. Descriptive statistics, including means, standard deviations, and ranges, were calculated for all variables. Pearson's *r* correlations were calculated to determine the relationship between gratitude, curiosity, and satisfaction with life. Lastly, separate one-way ANOVAs calculated group differences in gratitude, curiosity, and satisfaction with life.

RESULTS

Out of the 300 undergraduate students who consented to participate, a total of 231 college students fully completed the surveys. Incomplete surveys (*n* = 69) were removed from analysis because correct scoring of surveys was not possible with significant missing information. Of the participants,

20.34% were men (n = 47) while 79.66% were women (n = 184). While given the option of choosing “other” for gender classification, no participants selected other as an option. Regarding school classification, 12.12% were freshmen (n = 28), 24.68% were sophomores (n = 57), 29.00% were juniors (n = 67), and 34.20% were seniors (n = 79). Means and standard deviations for each outcome variable for men and women can be found in Table 1.

Table 1: Descriptive Statistics for Men and Women

<i>Outcome Variable</i>	Men (n = 47)		Women (n = 184)		Effect Size
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Gratitude	34.49	6.21	37.46	4.35	-0.62
Stretching Subscale	19.54	7.00	19.19	6.74	0.05
Embracing Subscale	19.35	7.38	18.92	7.55	0.06
Total CCE-II	43.76	15.24	42.95	14.56	0.05
SWLS	22.20	6.305	24.93	6.10	-0.44

Pearson’s r correlations revealed a significant positive relationship between gratitude and stretching (r = 0.24), total curiosity (r = 0.20), and life satisfaction (r = 0.36). There was also a statistically significant, positive relationship between life satisfaction and the stretching subscale (r = 0.29), embracing subscale (r = 0.19), and total curiosity (r = 0.27) (see Table 2).

Table 2: Correlations between outcome variables

	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Stretching Subscale	4.81	1.36	(0.86)	0.67**	0.9**	0.24**	0.29**
2. Embracing Subscale	3.80	1.50	-	(0.88)	0.91**	0.01	0.19**
3. CEI-II Total	4.31	1.47	-	-	(0.87)	0.2**	0.27**
4. Gratitude	36.85	4.93	-	-	-	(0.72)	0.36**
5. Life Satisfaction	24.38	6.22	-	-	-	-	(0.86)

Note. Cronbach’s *a* on diagonal in brackets. Correlation coefficient is Pearson *r*;
***p* < .001

Separate one-way ANOVAs were used to examine gender group differences in outcome variables. There were statistically significant differences in gratitude between genders, [F(2,230) = 14.40, *p* < .001].

Gratitude for women ($M = 37.46$, $SD = 4.35$) was statistically significantly greater than gratitude for men ($M = 34.49$, $SD = 6.21$). There was also a statistically significant difference in life satisfaction for gender, [$F(2,230) = 6.91$, $p < .001$]. Women reported significantly greater satisfaction with life ($M = 24.93$, $SD = 6.10$) when compared to men ($M = 22.20$, $SD = 6.30$). There were not statistically significant differences in stretching or embracing subscales between genders. Separate one-way ANOVAs also examined differences in outcome variables across college grade level. There was not a significant difference between freshmen, sophomores, juniors, or seniors for gratitude ($p = 0.52$), stretching ($p = 0.07$), embracing ($p = 0.90$), or satisfaction with life ($p = 0.65$).

DISCUSSION AND CONCLUSIONS

The purpose of this present study is to examine the relationship between gratitude, curiosity, and satisfaction with life in college. The results indicate a positive relationship between gratitude, curiosity, and satisfaction with life. Furthermore, women exhibit higher levels of gratitude as well as satisfaction with life when compared to men. There was not a significant difference for curiosity or the subscales between gender or race. These results are consistent with the hypotheses and will be discussed in regard to previous research and future application. These results also support the Broaden and Build Model of positive emotional expression and how such positive emotions are related to one another (Fredrickson, 2013).

There is a moderately strong, positive correlation between gratitude, curiosity, and satisfaction with life in college students. This correlation is consistent with intervention research in which more curious dispositions were more likely to pursue and complete gratitude interventions (Kaczmarek et al., 2013). In another study of Mexican college students, optimism, grit, and gratitude were significant predictors of life satisfaction (Vela et al., 2017). Furthermore, in a meta-analysis of character strengths, there was a strong relationship and reliability between various positive emotions such as curiosity, gratitude, love of learning, and satisfaction with life (Bruna et al., 2018). As college students transition to higher education, gratitude training may help them effectively adapt and cope with stressors or difficulties, helping promote academic success, healthy behavior regulation, social connectedness, mental wellness, and overall satisfaction with life (Colby et al., 2009; Hunt & Eisenberg, 2010; Jensen, 2003; Kessler et al., 1995). The results from this study, along with previous research, support the notion that positive emotions, such as gratitude, have the potential to broaden thought-action repertoires through curiosity, thus promoting satisfaction with life (Fredrickson, 2013). Positive affect seems to be associated with satisfaction

with life in college students in different countries, but this study provides information on students in the United States (Chang et al., 2018). College counseling centers could integrate positive psychology interventions grounded in the Broaden and Build Model as a way to reduce psychological distress and improve coping skills (Mofidi et al., 2014; Saunders-Scott et al., 2018).

There is also a significant difference between men and women in gratitude and satisfaction with life. Women express greater levels of each of those variables when compared to men college students. Higher levels of gratitude and satisfaction with life in women is in line with previous research in which women consistently report greater gratitude than men (Chan, 2012; Froh et al., 2009; Gordon et al., 2004; Tian et al., 2015). Previous research also supports greater satisfaction with life in college women when compared to men (Balkis & Erdinc, 2017). Greater satisfaction with life in college women could be due to the fact that men perceive gratitude as a sign of weakness and threat to their masculinity. Furthermore, women tend to be more emotionally intelligent than men, which is associated with gratitude (Cabello et al., 2016). It was surprising that there was not a statistically significant difference in curiosity as curiosity is correlated with gratitude and emotional intelligence (Cabello et al., 2016). It is necessary for identity to be discussed on college campuses in a way that creates a sense of curiosity, gratitude, and belonging so that all students can experience college-related life satisfaction.

The results from this study support the relationship between curiosity, gratitude, and life satisfaction. It is necessary to promote wellness courses and first-year experience classes that promote such positive emotional expression to help freshmen students transition effectively to life at college. Students learn more effectively, connect with peers and professors, become more emotionally mature, and transition more productively to college if enrolled in courses that promote social emotional learning, resiliency, and life purpose (First et al., 2018; Jones et al., 2015; Lee & Mason, 2019; Schonert-Reichl, 2019; Vaccaro et al., 2018). As universities offer resources and strategies to promote gratitude, students may experience improvements in life satisfaction as well as decreases in depression, stress, and anxiety (Emmons et al., 2019; Kashdan et al., 2013). Furthermore, it is important to specifically instill intrinsic motivation and curiosity in college regarding social groups, self-regulation of financial and physical well-being, and academic success. College students who learn to express gratitude and curiosity tend to exhibit decreases in self-harm, suicide ideation, and suicide attempts (Kleiman et al., 2013; Twenge, 2017; Twenge et al., 2018). This study supports the idea that positive psychological strategies could serve to prevent negative emotions in

students, rather than universities only attempting to intervene once symptoms arise.

IMPLICATIONS

Further research can examine interventions that promote instillation of curiosity and gratitude in college, and the impact such positive emotional thinking and expression can have on satisfaction with life in college. Although gratitude interventions can be effective in terms of letter writing, writing gratitude lists, and behavioral expression of gratitude, it is necessary to understand the impact of interventions that promote curiosity (Gabana et al., 2017; Kaczmarek et al., 2015; Wood et al., 2010). A plethora of evidence supports gender differences in college, with women expressing greater satisfaction with academic life and academic performance than men (Kim & Sax, 2009; Maceli et al., 2011; Tessema et al., 2012). Tailored interventions need to promote student well-being across all gender identities, rather than from a gender binary perspective. The Broaden and Build Model supports the idea that positive emotions, such as gratitude and curiosity, can promote academic transition, success, and overall well-being. It is necessary to continue implementing programming that supports college student positive emotional well-being to enhance transition, retention, and graduation.

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