

More gratitude, less materialism: The mediating role of life satisfaction

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An empirical relationship has been documented between gratitude and materialism, such that stronger feelings of gratitude are associated with lower materialism. Building on Fredrickson's (1998, 2001) theory that positive emotions 'broaden' and 'build' we sought to expand upon this finding by (1) examining satisfaction with life as a potential mechanism for this relationship, and (2) exploring the causal direction of this relationship through experimental means. Study 1 ($n = 131$) demonstrated that satisfaction with life mediated the relationship between gratitude and materialism. Study 2 ($n = 171$) showed that that experimentally induced gratitude resulted in higher satisfaction with life and lower materialism in a high gratitude condition compared to an envy (low gratitude) condition. Implications and directions for future research were discussed.

Keywords: gratitude; materialism; satisfaction with life; broaden-and-build theory; positive psychology

Introduction

As more researchers have begun to explore factors that enhance human life, there has been increasing attention to the effect of positive emotions on mental health outcomes. A useful theory in this emerging work is the broaden-and-build theory of positive emotions (Fredrickson, 1998, 2001). The broaden-and-build theory asserts that negative emotions, like the fear experienced in a threatening situation, narrow a person's momentary thought-action repertoire to promote quick and decisive action such as 'fight or flight.'

In contrast, positive emotions broaden momentary thought-action repertoires, which widen the array of thoughts that come to mind. For instance, joy appears to broaden the thought-action repertoire by creating the urge to play, be creative, push the limits, and so on (Fredrickson, 2001). Likewise, a positive emotion such as curiosity creates the urge to explore, to take in new experiences and information, and to expand the self in the process. Fredrickson argued that such broadening emotions build enduring personal resources such as social bonds, health, and knowledge.

The broadening and building of gratitude

Gratitude appears to fit Fredrickson's description of a positive emotion. The word gratitude is derived from the Latin word *gratia*, which means graciousness, grace, or gratefulness. All derivatives from this Latin root 'have to do with kindness, generousness, gifts, the

beauty of giving and receiving, or getting something for nothing' (Pruyser, 1976, p. 69). Gratitude has been conceptualized in several different ways including a moral virtue, an attitude, an emotion, a habit, a personality trait, and a coping response (Emmons, McCullough, & Tsang, 2003). Emmons (2004, p. 9) defined gratitude as 'the recognition and appreciation of an altruistic gift.' Fitzgerald (1998) identified three important components of gratitude including: (a) a warm sense of appreciation for something or somebody; (b) a sense of goodwill toward that thing or person; and (c) a resultant disposition to act positively due to appreciation and goodwill.

The preceding observations suggest that gratitude, as a positive emotion, broadens one's perspective and builds other positive emotions or attributes. For example, in a recent review, McCullough, Kilpatrick, Emmons, and Larson (2001) presented a great deal of evidence that gratitude promotes prosocial behavior. Other researchers have suggested that kind acts inspired by gratitude build and strengthen social bonds and friendships (Emmons & Shelton, 2002; McCullough & Tsang, 2004; McCullough et al., 2001). McCullough, Emmons, and Tsang (2002) found that gratitude was related to higher levels of life satisfaction. The potential of gratitude to build feelings of life satisfaction is important in its own right, as gratitude is an emotion that may be readily induced (e.g., Bartlett & DeSteno, 2006; Jackson, Lewandowski, Fleury, & Chin, 2001), and could be utilized by clinicians to reduce depression or anxiety in their clients. In the

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present study, we focus on how gratitude may, by enhancing satisfaction with life, reduce the tendency toward materialism.

Materialism

Materialism has been conceptualized in terms of the importance one attaches to worldly possessions (Belk, 1985) and an interest in 'getting and spending' (Rassuli & Hollander, 1986, p. 10). In their seminal work on materialism, Richins and Dawson (1992) identified three core dimensions of the 'materialistic ideology': (1) material possessions lead to happiness; (2) success is best defined in material terms; and (3) acquisition of material goods is central. These researchers also identified four traits of materialistic individuals: (1) a need for a material complexity, which often results in reliance on technology to solve problems and a lack of concern for nature or the environment; (2) a greater emphasis on financial security and less on interpersonal relationships; (3) a preference to spend more on themselves and less on others; and (4) a lower level of satisfaction with their life in general. In the present investigation, we utilize the common sense conception of materialism as embodied in its dictionary definition, namely, 'A devotion to material needs and desires, to the neglect of spiritual matters; a way of life, opinion or tendency based entirely upon material interests' (*Oxford English Dictionary*, 1989).

Gratitude and materialism

To our knowledge, two studies (McCullough et al., 2002; Polak & McCullough, 2006) have reported a direct negative relationship between gratitude and materialism. There may be several potential explanations for this relationship. For instance, materialistic striving seems to focus an individual on self and what one does not have and is trying to acquire. Conversely, an important aspect of gratitude is a recognition, appreciation (Lambert, Graham, & Fincham, submitted), and savoring (McCullough et al., 2002) of what one does have. These two foci appear mutually exclusive. McCullough, Emmons and Tsang (2002) argue that only with great difficulty could an individual be both grateful and materialistic at the same time. Polak and McCullough (2006) posited that gratitude should cause people to feel that their life is imbued with the good will of other people, and the security and completeness from such an experience would likely reduce materialistic strivings. Consistent with this line of thinking, we hypothesize that gratitude will build a sense of satisfaction with life, which will make individuals less inclined to pursue materialistic strivings.

In light of the observations made thus far, it is perhaps not surprising that gratitude is related

negatively to materialistic strivings (McCullough et al., 2002; Polak & McCullough, 2006). However, previous studies on this association are limited in that they have not explored mechanisms or direction of effects. The current research addresses these limitations by exploring potential mechanisms that might account for this relationship, and by exploring the causal direction of the relationship using experimental methods.

Overview of present studies

Prior research has demonstrated an association between gratitude and materialism and we sought to expand upon this research in two important ways. In Study 1 we examined satisfaction with life as a potential mediator of the gratitude-materialism association. In Study 2, we built on findings from Study 1 by conducting an experiment which included both high and low gratitude conditions. Through experimental means we intended not only to establish causality for the relationship between gratitude and materialism, but also hoped to replicate the finding that satisfaction with life mediates this relationship.

Study 1

The purpose of Study 1 is twofold: (1) to replicate previous research (McCullough et al., 2002; Polak & McCullough, 2006) that shows a negative relationship between gratitude and materialism, and (2) to test our hypothesis that satisfaction with life is one mechanism that may account for the relationship between gratitude and materialism. Specifically, we hypothesized that experiencing feelings of gratitude cultivates satisfaction with one's life, and that life satisfaction, in turn, lowers materialistic strivings. Consistent with this reasoning, extant data show a correlation between gratitude and life satisfaction (McCullough et al., 2002) and a negative association between life satisfaction and materialism (Kashdan & Breen, 2007; Richins & Dawson, 1992). However, our search of the literature revealed no cases in which gratitude, life satisfaction, and materialism were examined simultaneously. Likewise, we did not find any research investigating variables that would mediate the relationship between gratitude and materialism. Thus, the current study offers a new look at this relationship.

Method

Participants

The study included 131 undergraduates (97 female) at a Southeastern university. Students were enrolled in a second-year psychology course and received extra

credit and a chance to win raffle prizes for participating in the study. Seventy-three percent of the sample was Caucasian, 12% African American, 8% were more than one race, and 7% reported being Asian, other race, or did not indicate race. Nine percent reported Hispanic ethnicity, while the remainder reported non-Hispanic ethnicity or did not report ethnicity.

Measures

Gratitude. Gratitude as an affective trait was measured with the self-report, 6-item Gratitude Questionnaire (GQ-6; McCullough et al., 2002). Example items include, 'I have so much in life to be thankful for,' and 'I am grateful for a wide variety of people.' Cronbach's alpha estimates for this measure ranged from 0.76 to 0.84 (McCullough et al., 2002). Coefficient alpha for this measure in the present sample was 0.68.

Satisfaction with life. Satisfaction with life was measured using the well-known Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). This measure comprises 5 items (e.g., 'In most ways my life is close to ideal,' 'If I could live my life over again, I would change nothing'). This scale has a 2-month test-retest correlation coefficient of 0.82 and coefficient alpha of 0.87 (Diener et al., 1985). Coefficient alpha in the present sample was 0.81.

Materialism. Materialism was measured using Richins and Dawson's (1992) 18-item trait measure that contained three subscales of materialism: success (e.g., 'I admire people who own expensive homes, cars, and clothes'), centrality (e.g., 'Buying things gives me a lot of pleasure'), and happiness (e.g., 'I'd be happier if I could afford to buy more things'). The scale had a 3-week test-retest reliability coefficient of 0.87 and a coefficient alpha that ranged between 0.71 and 0.75 (Richins & Dawson, 1992). In the current study it was 0.78. See Table 1 for descriptive statistics of the sample for all measures.

Procedure

Participants met in a computer laboratory with the understanding that they would be involved in survey

research. Once the participants had given informed consent, they were instructed to complete an online questionnaire which included the above measures as part of a larger study.

Results

Of the sample, five respondents provided no data on any of the measures leaving a sample of 126 respondents. Of these, 115 respondents had complete data and rather than delete cases with any missing data, the present study used Full Information Maximum Likelihood (FIML) and structural equation modeling (SEM) to test the predicted relationships among constructs.

FIML (Little & Rubin, 1987; Rubin, 1976; Schafer, 1997) computes maximum likelihood estimates and standard errors for SEM from data with missing values. It provides efficient estimation of statistical parameters from incomplete data, and thus allows retention of the complete sample for all analyses. Parameter estimates from FIML provide less biased information than ad hoc procedures such as listwise deletion, pairwise deletion, or imputation of means (Schafer, 1997). For these reasons, FIML was used in this study and, as a result, the analyses included all respondents in the SEM analyses. Mplus 4 (Muthen & Muthen, 1998–2007) was used to estimate the model and test possible mediating effects.

We computed the model shown in Figure 1a to test our mediation hypothesis. As the model is saturated, our interest rested only in determining parameter estimates to examine the indirect effect between gratitude and materialism. Typically, this indirect effect is tested by obtaining its asymptotic standard error using the multivariate delta method (Sobel, 1982). This method assumes that the product of coefficients constituting the indirect effect is normally distributed but Preacher and Hayes (2008) point out that this distribution tends to be skewed and leptokurtic making use of the Sobel test suspect, especially with small samples. As a result, resampling or bootstrapping methods are beginning to replace the Sobel method for testing mediation (Shrout & Bolger, 2002).

In our model the indirect effect was -0.35 (products of the corresponding unstandardized coefficients), which was reliably different from 0 using the recommended procedure of evaluating statistical significance with bootstrapped standard error (95% Confidence Interval based on 1000 resamples -0.64 to -0.11 ; see Dearing & Hamilton, 2006). The direct effect from gratitude to materialism was nonsignificant ($\beta = -0.05, p > 0.05$) showing that full mediation occurred.

We acknowledge that other mediation models may be plausible, and we tested one likely alternative

Table 1. Study 1: descriptive statistics.

Variables	<i>M</i>	<i>SD</i>	Range
Gratitude questionnaire	6.21	0.63	1–7
Satisfaction with life	3.70	0.66	1–5
Materialism (trait)	3.02	0.46	1–5

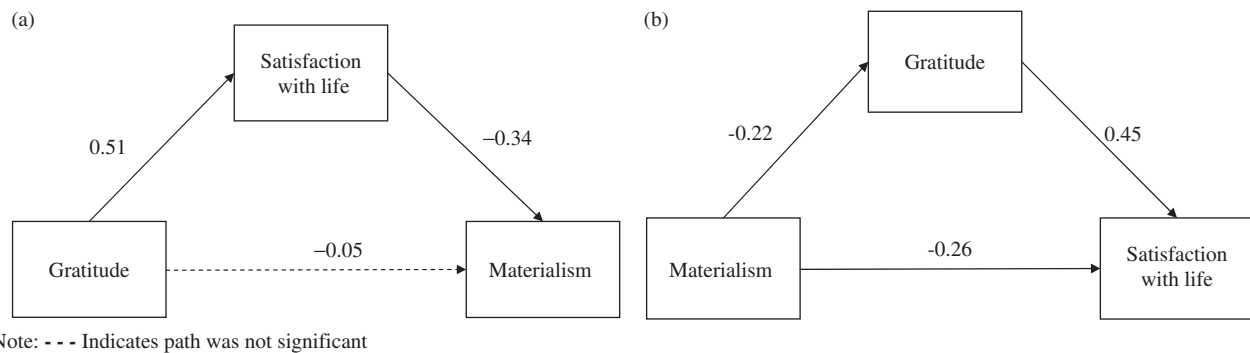


Figure 1. (a) Models examined in Study 1. Proposed mediation model. (b) Models examined in Study 1. Alternative mediation model.

(see Figure 1b). For example, perhaps gratitude mediates the relationship between materialism and satisfaction with life suggesting that materialistic people spend less of their energy on intrinsic goal pursuits and are less grateful and consequently less satisfied with life. In this alternative model the indirect effect was -0.04 (products of the corresponding unstandardized coefficients), which was reliably different from 0 using the recommended procedure of evaluating statistical significance with bootstrapped standard error (95% Confidence Interval based on 1000 resamples -0.09 to -0.01). However, the direct path from materialism to life satisfaction was significant in this model ($\beta = -0.26$, $p < 0.01$). Thus, this alternative model shows that gratitude only partially mediated the relationship between materialism and satisfaction with life.

Discussion

As hypothesized, Study 1 showed that satisfaction with life fully mediated the relationship between gratitude and materialism. One interpretation of these results is that the mediational role of life satisfaction reflects the distinctive mental focus brought on by gratitude and materialism. That is, as gratitude focuses an individual's attention on what he or she has in life (Adler & Fagley, 2005), it creates a sense that life is satisfying.

One primary reason for proposing satisfaction with life as a key mediator of gratitude and materialism is because gratitude is likely more aligned with intrinsic goal pursuits rather than the extrinsic goals (implicit in materialistic striving) and people with intrinsic goals have been shown to be more satisfied with life (e.g., Kasser & Ryan, 2001). Self-determinism theory (Deci & Ryan, 1980, 1985, 1991) suggests that human motivation requires the consideration of certain psychological needs, namely, competence, relatedness, and autonomy. Deci and Ryan (2000) make a case that feelings of competence, relatedness, and autonomy

are essential to intrinsic motivation, which is associated with well-being. It seems plausible that grateful people would likely be higher in relatedness and be more intrinsically motivated, which may be one reason why gratitude is related to satisfaction with life. Thus, by engendering intrinsic motivation, gratitude may build satisfaction with life, which could reduce one's focus on extrinsic aspirations such as materialism. These possibilities ought to be tested empirically.

The results from Study 1 provide additional empirical evidence for Fredrickson's (1998, 2001) broaden-and-build theory inasmuch as gratitude was positively correlated with another positive construct, satisfaction with life. In essence, gratitude appears to potentially build feelings of subjective well-being and broaden the view of the good life. Future research should explore the long-term psychological or social resources that may be built when one is satisfied with life.

However, there was also some evidence for an unpredicted model that gratitude mediates the relationship between materialism and satisfaction with life. Such a model implies that materialism results in lower levels of gratitude and satisfaction with life. The current findings are limited in that they are correlational and therefore preclude causal inferences. Especially, in light of the evidence for the plausibility of an alternative model, experimental methods are needed to determine if gratitude actually leads to less materialism. We address this limitation in Study 2, and seek to replicate the findings from Study 1 that satisfaction with life mediates this relationship.

Study 2

In Study 1, we built on prior research by exploring a mediator of the relationship between gratitude and materialism. Satisfaction with life was shown to mediate the relationship between gratitude and materialism, which builds on prior research that reported a negative correlation between gratitude and

materialism (e.g., Polak & McCullough, 2006). Nonetheless, the direction of effects in this relationship is unclear. Thus, in Study 2 we employed an experimental design to test the hypothesis that gratitude decreases materialism. A second objective of Study 2 was to replicate our finding that satisfaction with life mediates the relationship between gratitude and materialism, this time using experimentally manipulated gratitude.

Method

Participants

The study sample was comprised of 171 undergraduates (116 female) from a Southeastern university, enrolled in a 200 level psychology course. Seventy one percent were Caucasian, 17% African American, and 12% were other, multiple, or did not indicate race. Fifteen percent indicated Hispanic ethnicity and the rest reported non-Hispanic or did not indicate ethnicity. Participants' age ranged from 18 to 30 years, and the median age was 21 years old. Complete data was provided by 166 respondents.

Measures

Gratitude. The GQ-6 (McCullough et al., 2002) was used again in the current study, this time as a manipulation check. Coefficient alpha for this measure among study participants was 0.78.

Satisfaction with life. The same satisfaction with life scale used in Study 1 was again used in Study 2. Coefficient alpha in the present sample was 0.77.

Materialism. To measure materialism we used a 10-item, Materialistic Desires state scale (e.g., 'I wish I made more money,' 'I wish I had a nicer car') (Kasser, 2004). The coefficient alpha in the current study for this measure was 0.88. In a previous study of 94 adults, this scale had a similar alpha of 0.89 and was significantly related to Richins and Dawson's (1992) materialism measure, $r(92) = 0.50$, $p < 0.01$.

Positive And Negative Affect Scales. Positive affect was measured using the Positive And Negative Affect Scales (PANAS), which is a 20-item widely-used measure of positive and negative affect (Watson, Clark, & Tellegen, 1988). We included it in the current study to verify that between group differences were not due simply to altering participants' affective state. The test-retest coefficient for this measure over an 8 week interval was 0.68 for positive affect and 0.71 for negative affect and the coefficient alphas were 0.86 and 0.87, respectively. The alphas for the current sample were 0.65 for positive affect and 0.59 for negative

Table 2. Study 2: descriptive statistics (experimental condition $n = 85$, control condition $n = 86$).

Variables	Experimental group		Control group		Range
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Satisfaction with life	3.78	0.62	3.53	0.81	1–5
Materialism (state)	4.75	1.33	5.20	1.15	1–7
Manipulation check	6.46	0.49	5.96	0.96	1–7
Positive affect	2.22	0.55	2.09	0.57	1–5
Negative affect	2.33	0.57	2.23	0.59	1–5

affect. See Table 2 for descriptive statistics of the sample for all measures.

Design and procedure

Participants agreed to participate in the study and received extra credit for their participation. The study was conducted in classrooms. After filling out a consent form and demographic information, each participant was randomly assigned to one of two conditions: a high gratitude condition and an envy (low gratitude) condition. Given Roberts' (2004) argument that envy is the opposite of gratitude, we decided it would be an effective foil for the high gratitude condition so that we would essentially be measuring two ends of a spectrum. These conditions were modeled after procedures utilized by McCraty, Atkinson, Tiller, Rein and Watkins (1995) and Jackson, Lewandowski, Fleury and Chin (2001), which involved focusing on the heart and re-creating the target emotion.

High gratitude condition

Participants randomly assigned to the high gratitude condition were given the following instructions:

Please put your pen or pencil down, close your eyes, and consciously disengage from unpleasant mental and emotional reactions by shifting attention to the heart. For a few minutes, focus on sincerely feeling appreciation for what you have been given in life. Now, in the space below please write about your experience and about some of the things that came to mind.

After completing the materialism measure and manipulation check, but before completing the satisfaction with life measure, participants were instructed to make a short list of some of the things that they are grateful for as a way to enhance the effect of the initial manipulation.

Envy (low gratitude) condition

We attempted to create a condition in which participants would feel less gratitude, and some evidence

suggests that envy is a mirror opposite of gratitude. Roberts (2004) proposed that gratitude and envy are essentially opposites because the grateful person is willing to be indebted to another, whereas the envious person is averse to being in such a position. Roberts' theoretical position is strengthened by empirical evidence demonstrating grateful individuals reported lower envy scores (McCullough et al., 2002). Therefore, inducing envy in study participants appeared to be a viable option for creating a low gratitude condition.

Students assigned to the envy (low gratitude) condition were instructed to engage in an activity very similar to that of the high gratitude condition in order to create a parallel control condition. Their instructions were as follows:

Feeling envy towards others is a natural human emotion that everybody feels at times. In the space below, please write the initials of someone that you often feel envious of. Now, please put your pen or pencil down, close your eyes, and consciously disengage from your surroundings by shifting attention to the heart. For a few minutes focus on one or more instances when you felt envious of the person whose initials you wrote and how you felt at those times. Please reexperience these instances as vividly as possible in your mind. Once you've finished envisioning this write a paragraph about the experience(s) in the space below.

In order to enhance this manipulation, participants were instructed to list some of the situations in which they have felt envious. This occurred after completing the materialism measure and manipulation check, but before completing the satisfaction with life measure. Our expectation was that those given the gratitude induction would be in a downward-comparison frame of mind and be pleased with what they have. In contrast, we expected those in the envy (low gratitude) condition would be prone to upward-comparisons and would feel displeasure with what they lack. Once participants had completed one of the two manipulation activities, they all filled out all of the same dependent measures.

Results

Manipulation checks

To determine whether or not the manipulation was effective at inducing high and low gratitude, a manipulation check (GQ-6; McCullough et al., 2002) was administered directly after the manipulation to determine whether gratitude had been manipulated. A one-way ANOVA was conducted to examine differences by condition. As predicted, participants in the high gratitude condition reported higher gratitude scores ($M = 6.46$, $SD = 0.49$) than those in the envy (low gratitude) condition ($M = 5.96$, $SD = 0.96$), $\beta = 0.32$, $p < 0.001$.

Gratitude and materialism

As hypothesized, there was a main effect of condition (0 = envy/low gratitude; 1 = high gratitude) on materialism as gratitude condition predicted materialism scores, $\beta = -0.17$, $p < 0.05$. This result provides evidence for a causal relationship between gratitude and materialism.

Mediation analysis

As in Study 1, we hypothesized that satisfaction with life would mediate this relationship (see Figure 2a). For the reasons previously outlined, we conducted SEM analyses using FIML and bootstrapping to test our mediation hypothesis. In our model the indirect effect was -0.94 (products of the corresponding unstandardized coefficients), which was reliably different from 0 using the recommended procedure of evaluating statistical significance with bootstrapped standard error (95% Confidence Interval based on 1000 resamples -0.15 to -2.33 ; see Dearing & Hamilton, 2006). The direct effect from gratitude condition to materialism was not significant ($\beta = -0.14$, $p > 0.05$) showing again that full mediation occurred.

Alternative mediation model

As we found some evidence for an alternative, theoretically plausible model in Study 1, we tested this alternative model in which gratitude mediates the relationship between materialism and life satisfaction (see Figure 2b). In this alternative model the indirect effect was -0.01 (products of the corresponding unstandardized coefficients), which was not reliably different from 0 using the recommended procedure of evaluating statistical significance with bootstrapped standard error (95% Confidence Interval based on 1000 resamples -0.02 to 0.01). Thus, no support was found for this alternative mediation model.

Ruling out an alternative hypothesis

Given that gratitude is widely accepted as a positive emotion and envy as a negative emotion, we wanted to rule out the alternative hypothesis that the mean differences we found were actually due to changes in positive and negative affect rather than gratitude in particular. To do so we conducted two one-way ANOVAs using scores on the positive affect (PA) and negative affect (NA) subscales of the PANAS as dependent measures. Results revealed no difference between participants in the high gratitude condition versus those in the envy (low gratitude) condition in terms of their PA, $\beta = 0.08$, $p = 0.28$. or NA, $\beta = 0.03$, $p = 0.70$. We also controlled for both affect dimensions. Controlling for affect, analyses still yielded a significant main effect for the gratitude condition

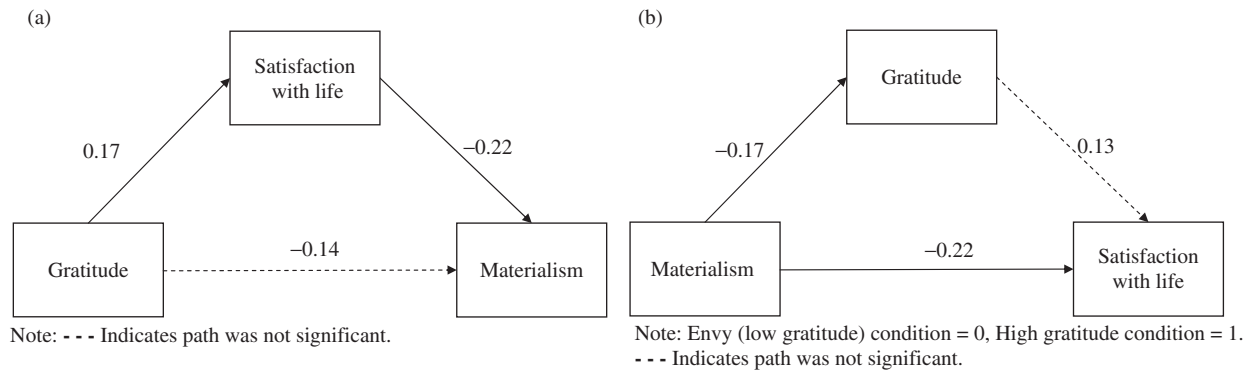


Figure 2. (a) Models examined in Study 2. Proposed mediation model. (b) Models examined in Study 2. Alternative mediation model.

on materialism scores; with positive affect controlled, $\beta = -0.17$, $p < 0.05$ and with negative affect controlled, $\beta = -0.17$, $p < 0.05$. These findings show that current effects were not due to overall differences in positive and negative affect.

Discussion

Analyses from Study 2 indicate that inducing high gratitude causes a decrease in materialism relative to an envy (low gratitude) induction. Furthermore, the current study demonstrates that satisfaction with life mediated the relationship between experimentally manipulated gratitude and materialism, consistent with the results of Study 1, which found that satisfaction with life mediated the relationship between naturally occurring gratitude and materialism. This effect does not appear to be due simply to positive or negative affect, as no between group differences in affect were observed and the group differences in materialism remained when negative and positive affect were statistically controlled. This finding provides further evidence consistent with the broaden-and-build theory of positive emotions which states that positive emotions like gratitude tend to broaden, build, or create additional positive thoughts, urges, or actions. In this case, increasing gratitude appeared to create additional positive thought about life; however, longitudinal studies are needed to explore the potential of gratitude to build long-term psychological resources in individuals.

In both Study 1 and Study 2, we tested the alternative model that gratitude would mediate the relationship between materialism and satisfaction with life. In Study 1, trait gratitude partially mediated the relationship between trait materialism and life satisfaction. However, in Study 2, gratitude did not mediate the relationship between state materialism and life satisfaction. Given that we did not manipulate materialism, we cannot rule out the plausibility of this

alternative model. Future research should attempt to manipulate materialism in order to test the potential for a bidirectional relationship. Nonetheless, the preponderance of the evidence from both studies supported our original, hypothesized model.

General discussion

The seeking of material goods is widespread in humans. Some material goods, such as shelter, are important to the well-being of the individual and the family. However, an excessive focus on the accumulation of material goods leads to a variety of negative consequences, such as decreased happiness and well-being (Belk, 1985; Burroughs & Rindfleisch, 2002; Richins & Dawson, 1992), as well as greater anxiety and less vitality (Kasser & Ahuvia, 2002). Given the negative consequences of a materialistic orientation, how can one reduce materialism? The current research demonstrated that inducing a sense of gratitude reduces materialism by increasing one's satisfaction with life.

Why gratitude may relate to satisfaction with life

It is possible that individuals with high levels of gratitude view the world with an attitude that things are better than they really are. Watkins (2004; Watkins, Grimm, & Hailu, 1999) described how gratitude may enhance life satisfaction. Specifically, he found that grateful individuals perceived memories of negative events as less influential on the present than did less grateful individuals. Thus, a grateful approach to negative life events might help reframe negative memories so that they have a less harmful influence. One way that grateful individuals likely reframe difficult life events is through 'redemptive sequences' whereby negative events are seen in a positive light (McAdams, Reynolds, Lewis, Patten, & Bowman, 2001). Those who employ redemptive sequences tend

to be more satisfied with their lives (McAdams et al., 2001). Similarly, Watkins, Christianson, Lawrence and Whitney (2001) found that the grateful disposition was positively related to scores on the mood repair scale, which may indicate that gratitude can offer a helpful perspective on life that helps restore positive mood following a stressful event.

Besides contributing to one's life satisfaction by enhancing one's psychological well-being, gratitude has been shown to benefit relationships, which is related to enhanced life satisfaction (e.g., Gilman, 2004). For example, Tsang (2007) found that grateful people are more likely to return a favor and McCullough and colleagues (2002) showed that grateful people are more supportive of and generous toward the people in their lives. McCullough and colleagues (2001) presented evidence that gratitude promotes prosocial behavior, which likely results in better relationships and other researchers have suggested that kind acts inspired by gratitude build and strengthen social bonds and friendships (Emmons & Shelton, 2002; McCullough & Tsang, 2004; McCullough et al., 2001). While there is some evidence that gratitude improves one's relationships (thereby enhancing life satisfaction) the research in this area is somewhat tenuous. Future research could profitably explore how gratitude may benefit relationships.

How enhanced satisfaction with life could reduce materialism

Our findings indicated that satisfaction with life was negatively related to materialism and functioned as a mechanism that links gratitude and materialism, but why might this be the case? Some researchers have argued that too much of an emphasis on possessions undermines the search for happiness and psychological fulfillment (Kasser & Ahuvia, 2002; Polak & McCullough, 2006). In support of this viewpoint, data consistently demonstrate that the pursuit of happiness via material possessions is negatively related to happiness, well-being, and life satisfaction (Belk, 1985; Kashdan & Breen, 2007; Richins & Dawson, 1992).

Furthermore, materialism and psychological well-being are inversely related (Belk, 1984; Burroughs & Rindfleisch, 2002; Kasser & Ahuvia, 2002; Srivastava, Locke, & Bartol, 2001). For example, materialistic people tend to be less self-actualized, more anxious, and have less vitality than less materialistic people (Kasser & Ahuvia, 2002). Materialistic people also have lower and more volatile levels of self-esteem, perhaps due to a reliance on extrinsic, rather than intrinsic, sources of personal fulfillment (Christopher & Schlenker, 2004; Deci & Ryan, 1995; Kasser & Kasser, 2001; Yurchisin & Johnson, 2004). When individuals place a strong emphasis on possessions and

consider them to be a central aspect of their life and happiness, they appear to do so at a cost to other pursuits such as personal relationships or intellectual enrichment (Christopher, Marek, & Carroll, 2004; Richins & Dawson, 1992; Richins & Rudmin, 1994).

Finally, and not surprisingly, higher levels of materialism are associated with lower levels of satisfaction with close interpersonal relationships (Richins & Dawson, 1992) and romantic partners (Dean, Carroll, & Yang, 2007). These findings point to some of the possible reasons why satisfaction with life and materialism are negatively related. Gratitude, through enhancing one's satisfaction with life, could potentially ameliorate several of the negative effects of materialism on an individual's psychological and relational well-being.

Implications for practitioners

The finding that gratitude reduces materialistic strivings has practical, clinical implications. Disagreement over finances has repeatedly been shown to be among the top reasons for divorcing (Amato & Previti, 2003) and other research indicates that disagreements over finances correlated strongly and positively with global relational dissatisfaction (Snyder, 1981). Thus, it is plausible that inducing gratitude can alleviate the negative effects of a preoccupation with materialistic strivings and thereby ameliorate the potentially negative effects of materialism on relationship satisfaction.

The possible clinical applications of these findings are bolstered by Dean, Carroll, and Yang's (2007) finding that materialistic attitudes were related to lower levels of marital satisfaction because materialism was related to couples' increased perceptions of financial problems. Thus, including gratitude-inducing activities in psychotherapy, intervention programs, or in marriage education may help prevent divorce and increase couples' relationship satisfaction by reducing the materialistic attitudes that relate to perceived financial problems. This possibility should be tested longitudinally.

Limitations and future directions

Prior studies have found that higher levels of materialism are more common in individuals of lower socioeconomic status (Abramson & Inglehart, 1995; Cohen & Cohen, 1996). Given that both of the current studies involved college students, individuals of lower socioeconomic status were likely underrepresented. Future research should test whether gratitude would have a similar relationship to materialism among individuals of lower socioeconomic status.

Another limitation specific to Study 2 was that without a neutral condition it is unclear whether the

observed differences in materialism were due primarily to the effect of the envy manipulation or the high gratitude manipulation. However, controlling for positive and negative affect reduces the likelihood that positive mood (potentially generated by the high gratitude condition) or negative mood (potentially generated by the envy/low gratitude condition) was responsible for between-group differences.

Nonetheless, there are some limitations of the PANAS that should be addressed by future research. For example, the PANAS does not tap moderately-arousing emotions such as happiness and sadness, or non-arousing emotions such as relaxation and gloominess. It could be the case that the relaxation or serenity likely generated in the high gratitude condition may have affected participants' momentary satisfaction with life. Thus, future studies should further explore the constellations of emotions that are associated with gratitude. This could be very beneficial for better understanding what it is about gratitude that mediates its effect on other variables. For example, if serenity is closely related to feeling grateful, serenity may be a mediator between gratitude and satisfaction with life. The clinical implications of these findings are grounds for future research, particularly for couples' therapy. While we demonstrated an immediate decrease in materialism following the gratitude induction, the extent to which this translates into longer-term effects and to actual pro-relational behavior remains to be seen.

Summary and conclusions

Research on gratitude is relatively new, yet it has been growing steadily over the last decade. Thus far, gratitude appears to be a strong predictor of several positive outcomes in the arenas of mental health (Masingale et al., 2001; Woodward, Moua, & Watkins, 1998), prosocial behavior (for a review see McCullough et al., 2001), and relationships (e.g., Dean et al., 2007; Emmons & Shelton, 2002; McCullough & Tsang, 2004; McCullough et al., 2001). The nature of the relationship between gratitude and materialism was addressed in two studies.

Study 1 expanded upon previous research that has demonstrated a correlation between gratitude and materialism by exploring how a positive state like life satisfaction mediates the relationship between gratitude and materialism. Results of Study 1 suggest that the reason grateful individuals are less materialistic is that gratitude creates a sense that life is good, which in turn reduces the focus on what one lacks materially. In so doing, Study 1 demonstrated that positive emotions or states may build other positive states (consistent with the broaden-and-build theoretical framework), which serve as a protective factor against certain negative emotions or states.

Previous research relating gratitude to materialism (including Study 1) is limited by its correlational nature. Study 2 makes a unique contribution by experimentally manipulating gratitude. Results showed that inducing gratitude produces a decrease in materialism (relative to a low-gratitude induction). Study 2 also replicated the findings of Study 1, in that satisfaction with life mediated the relationship between gratitude and materialism. This demonstrates more convincingly that satisfaction with life is a potential mechanism by which gratitude decreases materialism. In short, when people feel grateful they are more likely to feel satisfied with life and are less likely to be focused on materialistic wants and desires.

As a positive emotion, gratitude has been shown to broaden an individual's outlook and to build other positive emotions (for a review see Fredrickson, 2004). The current studies provide additional evidence for gratitude's potential to broaden and build other positive emotions. Future research ought to explore further how gratitude relates to materialism and to other psychological constructs, in order to expand current understanding of the potential usefulness of incorporating the induction of gratitude into interventions, therapy, and educational programs.

Note

The Kasser (2004) materialism measure was used in this experimental study because it is a state scale.

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