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Why are materialists less happy? The role of gratitude and need satisfaction in the relationship between materialism and life satisfaction



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ABSTRACT

Materialism has been consistently related to lower levels of life satisfaction. We suggest that one reason for this negative relationship may be that high materialists find it harder to be grateful, and lower levels of trait gratitude may be related to unmet psychological needs. 246 undergraduate marketing students (129 female) completed self-report dispositional measures of materialism, gratitude, need satisfaction, and life satisfaction via online questionnaire. Statistical mediation analyses were performed using conditional process modeling. Consistent with predictions, gratitude and need satisfaction mediated the relationship between materialism and decreased life satisfaction in-sequence. Gratitude was also a direct mediator, whereas need satisfaction played an indirect role through its relationship with gratitude. Results may shed light on why those high in materialism are less happy than those low in materialism, and suggest possibilities for interventions to increase life satisfaction.

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Do not spoil what you have by desiring what you have not; remember that what you now have was once among the things you only hoped for.

-Epicurus

Research suggests that materialists, despite their increased tendency to achieve material goals, tend to be less globally satisfied with their lives. For example, materialists are more likely to be depressed (Mueller et al., 2011), lonely (Pieters, 2013), and have lower self-esteem. Understanding the nature of this relationship is an important goal for materialism research (Christopher, Drummond, Jones, Marek, & Therriault, 2006). A number of constructs have

been posited to account for this relationship, but one factor that has received less attention is gratitude. A better understanding of the role of gratitude may be the antidote to the increasingly negative outcomes associated with the rising tide of materialism in the ever-expanding global consumer culture. In the present research, we outline a model that examines decreased gratitude and impaired need satisfaction as mediators of the link between materialism and life satisfaction. We propose that one reason materialists are less satisfied with their lives is that they experience less gratitude. Rather than being satisfied with what they have, materialists may instead focus on what they do not have, making it difficult to appreciate the positive in their lives. Such an orientation may make it more difficult for materialists to get their psychological needs met, further contributing to lower life satisfaction.

1. Materialism and life satisfaction

Richins and Dawson (1992) outlined three key facets of materialism: (1) centrality, or making acquisition of material possessions a central focus in one's life, (2) happiness, or making the pursuit of material possessions one's main source of life satisfaction, and (3) success, or viewing possessions as a marker for success. Given its importance for life satisfaction, we restrict our discussion of materialism to the happiness facet, defining materialism as the degree to which one believes that material possessions are a large determinant of one's happiness in life.

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A number of studies have shown that materialism predicts decreased life satisfaction. Higher materialism scores are related to dissatisfaction not only with one's standard of living, but also dissatisfaction with the amount of fun in life and relationships with one's friends, along with dissatisfaction with life as a whole (Richins & Dawson, 1992; see also Burroughs & Rindfleisch, 2002; Christopher, Saliba, & Deadmarsh, 2009; Froh, Emmons, Card, Bono, & Wilson, 2011; Kasser, 2002; Otero-López, Pol, Bolaño, & Mariño, 2011; Ryan & Dziurawiec, 2001). Materialism is also associated with several negative indicators of well-being, such as loneliness (Pieters, 2013), depression (Mueller et al., 2011), and low self-esteem (Christopher et al., 2006; Richins & Dawson, 1992). A series of studies by Kasser and Ryan (1993, 1996, and 2001) found that those expressing highly materialistic values experienced fewer positive emotions and greater levels of depression. anxiety, and substance abuse. Kasser (2002) concludes that a value system dominated by materialistic values undermines one's sense of self, the quality of his or her relationships and willingness to get involved in community events. These may be particularly related to the happiness facet of materialism, which Roberts and Clement (2007) found was negatively related to satisfaction in eight different life domains.

Why are materialists, on average, less happy? Gap theory (Solberg, Diener, & Robinson, 2004) posits that materialists have unrealistically high expectations for the satisfaction that material goods will bring them. Consistent with this, Richins (2013) showed that prior to making a purchase, materialists experience higher levels of expectation and anticipatory positive emotion than nonmaterialists. However, the acquisition of material goods is unable to meet expectations or sustain these emotions, leading to a decline of positive emotion. In order to maintain positive emotions, materialists may therefore need to continually seek out new purchases, resulting in a chronic dissatisfaction and potential decreases in psychological states that are important for well-being, such as gratitude.

2. Gratitude, well-being, and materialism

Gratitude is a positive emotion that is experienced when people perceive that they have a received a valued benefit (Emmons & Crumpler, 2000; McCullough, Kilpatrick, Emmons, & Larson, 2001; Tsang, 2007). Research has linked gratitude with various indices of well-being (Seligman, Steen, Park, & Peterson, 2005; Wood, Froh, & Geraghty, 2010), including decreased depression (Fredrickson, Tugade, Waugh, & Larkin, 2003; Toepfer, Cichy, & Peters, 2012), increased positive life appraisals (Emmons & McCullough, 2003), positive affect (Froh, Kashdan, Ozimkowski, & Miller, 2009; Toepfer et al., 2012), perceived meaning in life (Kashdan, Uswatte, & Julian, 2006; Lambert, Graham, & Fincham, 2009), and life satisfaction (Lavy & Littman-Ovadia, 2011; Toepfer et al., 2012; Watkins, Woodward, Stone, & Kolts, 2003; Wood, Joseph, & Maltby, 2008). Gratitude seems to confer robust benefits for well-being.

If materialism is associated with decreased gratitude, it may explain in part why materialists are less happy. Recent research has demonstrated that materialism and gratitude are negatively related (Froh et al., 2011; Lambert, Fincham, Stillman, & Dean, 2009; McCullough, Emmons, & Tsang, 2002; Polak & McCullough, 2006). This research has at times pointed to a causal relationship from state gratitude to temporary decreases in materialism (Lambert et al., 2009; Polak & McCullough, 2006). However, it is also plausible that a materialistic outlook, which looks for satisfaction in what one does not have, would impair the ability to be grateful for what one has now. In the present study, we examine whether gratitude mediates the relationship between materialism and life satisfaction.

3. Need satisfaction as second potential mediator

What mechanisms might underlie the mediating effect gratitude might have on the lower life satisfaction of high materialists? Gratitude may lead to increased life satisfaction because grateful people have important psychological needs satisfied, whereas materialistic people may have unmet psychological needs. Extending the previous theoretical model, we suggest that materialism and decreased gratitude may impact life satisfaction indirectly through a third variable: impaired psychological need satisfaction.

Sheldon (2011) defined psychological needs as "evolved tendencies to seek out certain basic types of psychosocial experiences and to feel good and thrive when those basic experiences are obtained" (p. 552). Well-being increases when basic psychological needs are met, which include relatedness, autonomy, and competence. Materialism may impact life satisfaction by leading individuals to neglect important psychosocial needs. Sheldon (2011) noted that although individuals often work toward satisfying unmet needs, people sometimes engage in unsatisfying behaviors. For example, a person high in materialism may deal with unmet relatedness needs by putting in even more hours at the office, leading to further deficits in relatedness and decreased life satisfaction (Kasser, 2002; see also Norris, Lambert, DeWall, & Fincham, 2012). Materialism might decrease autonomy by compelling people to acquire more wealth rather than choosing other activities. It might decrease competence if materialistic people chronically focus on where they fall short in terms of material resources.

Research has supported a link between materialism and unmet psychological needs. Kashdan and Breen (2007) found that materialism was associated negatively with relatedness, autonomy, and competence, along with lower levels of dispositional gratitude. Howell and Hill (2009) had college students remember a past experiential purchase (e.g., concert, road trip) or a past material purchase (e.g., clothing, electronics) and found that experiential purchases increased well-being over material purchases via increased relatedness and decreased social comparison. By making life satisfaction contingent on the acquisition of material possessions (Richins & Dawson, 1992), materialists may be likely to neglect other important needs, fostering dissatisfaction with life.

Materialism may also impair need satisfaction as a result of decreased gratitude. As a social emotion, gratitude often leads people to feel connected to others (Algoe, 2012). If gratitude is impaired, individuals may be less likely to have those relatedness needs met. Gratitude may also be closely related to autonomy: if one is able to be appreciative for the positive aspects of one's life, it might make it easier for one to freely engage in other necessary but less enjoyable tasks. Gratitude may be positively related to competency, given that individuals may feel empowered when they perceive support from those in their social world; however, gratitude could instead impair competence if individuals perceive that they cannot meet important goals without the support of others. Recent are suggestive of a relationship between gratitude, need satisfaction, and life satisfaction. Boehm, Lyubomirsky, and Sheldon (2012; as cited by Lyubomirsky & Layous, 2013) demonstrated that both a gratitude and an optimism intervention positively affected life satisfaction through increases in need satisfaction (particularly relatedness and autonomy). Similarly, Sheldon et al. (2010) found that longitudinal interventions to increase need satisfaction produced increases in happiness. Thus, in general, we would expect grateful people to be more likely to have their psychological needs met, and be more satisfied with their lives.

4. The present study

We examine the potential mediating role that need satisfaction and gratitude have for the relationship between materialism and

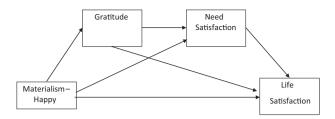


Fig. 1. Theoretical model depicting potential mediating relationships.

life satisfaction. We hypothesized that these variables would mediate the relationship between materialism and life satisfaction both directly and in-sequence. Specifically, we hypothesized that materialism would predict decreased gratitude and need satisfaction. These variables, in turn, should uniquely predict life satisfaction and explain why materialists are less satisfied with their lives. In addition, we expected to see sequential mediation, with materialism predicting decreased gratitude, in turn predicting impairments to need satisfaction and therefore life satisfaction (see Fig. 1).

5. Method

5.1. Participants and procedure

Participants were 246 (129 female) members of the marketing department subject pool from a mid-sized, private university in the southwestern United States, with an average age of 21 (range = 18–25 years). 6% were sophomores, 74% juniors, and 20% seniors. Less than 1% of the sample was freshman. 75% were Caucasian, 8% Hispanic, 5% Asian, 5% African American, 5% were of mixed race and 1% "other." Data collection occurred during the Fall 2012 semester and was terminated at the end of one semester.

Participants completed the 10–15 min survey in partial fulfillment of a course requirement. Data was collected via self-report questionnaires using Qualtrics survey software. Potential respondents were sent a link to the anonymous survey via e-mail.

5.2. Measures

5.2.1. Materialism

We measured materialism using the 15-item version of Richins and Dawson's (1992) materialism scale. The scale measures three dimensions of materialism with five items each: happiness, centrality, and success. In the present research, only the five-item happiness dimension was utilized (sample item, "My life would be better if I owned certain things I don't have", 1 = Strongly Disagree, 5 = Strongly Agree). A higher score on the happiness dimension of materialism suggests that the respondent views material possessions as a route to happiness. This subscale had satisfactory reliability for our sample, $\alpha = .72$.

5.2.2. Gratitude

Dispositional gratitude was measured using the GQ-6 (McCullough et al., 2002). This six-item measure has good psychometric properties (sample item, "I have so much in life to be thankful for", $1 = Strongly \ disagree$, $7 = Strongly \ agree$). Reliability for this sample was good, $\alpha = .80$.

5.2.3. Need satisfaction

Need satisfaction was measured using the Balanced Measure of Psychological Needs (BMPN; Sheldon & Hilpert, 2012). The BMPN has three subscales with six items each: relatedness, competence and autonomy. Participants responded on a 1–5 Likert-type scale (1 = no agreement, 5 = much agreement). Sample items included: "I

felt a sense of contact with people who care for me, and whom I care for" (relatedness), "I struggled doing something I should be good at" (competence, reverse-scored), and "I was really doing what interests me" (autonomy). Reliability for this sample was good for the total scale (α = .80), but low for the relatedness (α = .61), autonomy (α = .52), and competence subscales (α = .66). Due to these low subscale reliabilities, we opted to focus on the total need satisfaction scale score in our analyses.

5.2.4. Life satisfaction

We measured life satisfaction with the five-item Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). Items are rated on a 7-point Likert-type scale (1 = strongly disagree, 7 = strongly agree; sample item, "I am satisfied with my life"). Reliability for this sample was good, $\alpha = .88$.

6. Results

Means, standard deviations, reliabilities, and correlations are given in Table 1. Prior to analysis, gratitude was square-root transformed to improve normality and satisfy test assumptions. All other variables satisfied normality assumptions and had skew in acceptable ranges; because gratitude was reflected during transformation, it was re-reflected to maintain original directionality (Tabachnick & Fidell, 2007). Results were not qualitatively different with the transformed variable.

Mediation was analyzed using the PROCESS macro for SPSS (Model 6; Hayes, 2013). PROCESS calculates a bias-corrected and accelerated bootstrapped confidence interval (10,000 resamples) for the size of each indirect effect, with significant mediation indicated by a confidence interval that does not contain zero. To yield standardized coefficients, all variables were converted to *z*-scores prior to analysis. See Fig. 2.

Together, the overall model explained 21% of the variance in life satisfaction. As predicted and consistent with prior research, there was a significant total effect from materialism to life satisfaction, $\beta = -.24$, p < .001. We next sought to determine whether gratitude and need satisfaction would mediate this relationship, both uniquely and in-sequence. As predicted, there was significant mediation overall, estimate = -.12, 95% CI [-.19, -.06], with our mediators explaining 50% of the link between materialism and life-satisfaction. With the mediators controlled, the direct link between materialism and life satisfaction was still significant, $\beta = -.12$, p = .048. Thus, our mediators explained approximately half of the association between materialism and life-satisfaction.

We next decomposed the mediated effect into three components. First, gratitude uniquely mediated the relationship between materialism and life satisfaction (independent of need satisfaction), estimate = -.05, 95% CI [-.11, -.01]. As materialism increased, gratitude decreased, β = -.32, p < .001. Gratitude, in turn, fed uniquely into life satisfaction, β = .17, p = .01. Decreased gratitude appeared to play a unique mediating role in explaining why materialists are less satisfied with their lives.

In contrast, reduced need satisfaction did not significantly mediate the relationship between materialism and life-satisfaction

Table 1Descriptive statistics and correlations.

	М	SD	1	2	3
1. Materialism	13.79	3.60			
Gratitude	36.62	4.99	32***		
3. Life sat	24.35	7.01	24***	.35***	
4. Need sat	61.48	9.02	23***	.47***	.40***

Note. *** *p* < .001.

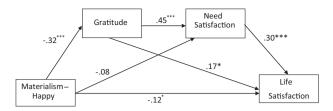


Fig. 2. Mediational analysis of the links between materialism and life satisfaction.

independently of gratitude, estimate = -.02, 95% CI [-.08, .01]. Materialism did not uniquely predict need satisfaction, $\beta = -.08$, p = .17, although need satisfaction did uniquely predict life satisfaction, $\beta = .30$, p < .001. In summary, reduced need satisfaction did not, without gratitude, explain why materialists report less life satisfaction.

Finally, we examined whether gratitude and need satisfaction would operate in-sequence to mediate the relationship between materialism and life satisfaction. Materialism predicted decreased gratitude, $\beta = -.32$, p < .001, which predicted need satisfaction, $\beta = .45$, p < .001, which predicted life satisfaction, $\beta = .30$, p < .001. The three-path mediation was significant, estimate = -.04, 95% CI [-.08, -.02]. Although need satisfaction did not uniquely mediate the link between materialism and life satisfaction, it did play a small, indirect mediating role, following gratitude.

7. Discussion

Consistent with predictions, gratitude and need satisfaction played important mediating roles for the negative relationship between materialism and life satisfaction, mediating 50% of the link between materialism and life satisfaction. As in past research, we found that materialism was negatively associated with well-being, with comparable effect sizes (Burroughs & Rindfleisch, 2002; Christopher et al., 2009; Richins & Dawson, 1992). Our results suggested that a considerable proportion of the relationship between materialism and decreased life satisfaction can be explained by the decreased gratitude that high materialists experience, and the resultant decreases in basic psychological needs.

When the mediation was further decomposed, we found that it appeared to be a function of three smaller indirect effects. Gratitude in the absence of need satisfaction was a mediator in its own right of the relationship between materialism and decreased life satisfaction. To a certain extent this is not surprising, given the robust relationship between gratitude and various indices of well-being in past research (Wood et al., 2010). If it is in fact difficult to value both materialism and gratitude at the same time, anything that increases materialism would likely be related to a decrease in gratitude and a decrease in the benefits associated with gratitude.

In contrast, need satisfaction did not uniquely mediate the relationship between materialism and life satisfaction in the absence of gratitude. This suggests that the decrease in life satisfaction associated with materialism is not simply due to an inability of materialists to get their basic needs satisfied. Instead, need satisfaction plays an indirect role through its relationship with gratitude.

The significant path from materialism to decreased gratitude, decreased need satisfaction, and onto decreased life satisfaction suggests an additional reason why materialism is related to life satisfaction. High materialists are less happy in part because they find it harder to be grateful for what they have. This decrease in gratitude is associated with detriments in basic psychological needs, which are needed in order for individuals to thrive. This suggests a number of potential intervention points for increasing life satisfaction in individuals who are high in materialism. One method, as suggested by some (Lambert et al., 2009; Polak & McCullough, 2006) is to increase gratitude, possibly through a gratitude diary intervention (e.g., Emmons & McCullough, 2003). Another possibility is to address materialists' unmet psychological needs (e.g., Rodrigue, Baz, Widows, & Ehlers, 2005; Rodrigue, Widows, & Baz, 2006). This may be a viable option if gratitude interventions turn out to be less effective in highly materialistic individuals due to potential value conflicts between materialism and gratitude (Bauer, Wilkie, Kim, & Bodenhausen, 2012), Future research can compare the effectiveness of interventions targeted at gratitude versus basic psychological needs in addressing the relationship between materialism and life satisfaction.

Other areas for future research include searching for additional mediators. The specific paths in our model, though small, yielded significant mediation in the aggregate. However, future research could explore other mediators. Additionally, the low reliabilities for the need satisfaction subscales in our study prevented us from fully exploring whether specific psychological needs were especially relevant to materialism, gratitude and life satisfaction. Future research can investigate whether particular needs such as relatedness are affected by materialism and gratitude, and whether decreases in specific needs affect life satisfaction differently.

Though we suggest that materialism affects gratitude, the cross-sectional, correlational design of our study does not allow us to know the causal relationship between materialism and gratitude with certainty. In fact, other researchers (Lambert et al., 2009) have presented experimental evidence that gratitude causally affects materialism, although they did not rule out causality in the opposite direction. We suspect that the relationship between materialism and gratitude is most likely bidirectional; increases in materialism can lead individuals to be less grateful for what they already have, but increases in gratitude might also lessen materialism and its detrimental effects (Polak & McCullough, 2006). Experimental research is needed that manipulates both materialism and gratitude in order to test the possibility of a reciprocal relationship between these two variables. Similarly, our study was limited by use of a college sample, which could have restricted the range of associations and potentially weakened effects. Such a college sample may thus have limited generalizability, although the materialism-life-satisfaction link has been found to be robust in both college and community samples (e.g., Richins & Dawson, 1992; Roberts & Clement, 2007).

Positive psychology interventions have been increasing in popularity as individuals become interested not only in alleviating negative affect, but also in increasing life satisfaction and wellbeing. Much of the intervention research utilizes populations from wealthy nations where materialism continues to increase in normativity (Kasser, 2004). Yet these interventions tend to overlook materialism and its link to life satisfaction. As research extends our knowledge about the relationship between materialism and life satisfaction, psychologists can become better equipped to help people shift focus from what they have not, to savoring and appreciating what they do have.

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^{*} Analyses were also conducted with the relatedness, autonomy, and competence subscales of the need satisfaction scale. Relatedness and autonomy served as indirect mediators following gratitude. Competence served as both a direct and an indirect mediator.

References

- Algoe, S. B. (2012). Find, remind, and bind: The functions of gratitude in everyday relationships. *Social and Personality Psychology Compass*, 6, 455–469.
- Bauer, M. A., Wilkie, J. E. B., Kim, J. K., & Bodenhausen, G. V. (2012). Cuing consumerism: Situational materialism undermines personal and social wellbeing. *Psychological Science*, 23, 517–523.
- Burroughs, J. E., & Rindfleisch, A. (2002). Materialism and well-being: A conflicting values perspective. *Journal of Consumer Research*. 29, 348–370.
- Christopher, A. N., Drummond, K., Jones, J. R., Marek, P., & Therriault, K. M. (2006). Beliefs about one's own death, personal insecurity, and materialism. *Personality and Individual Differences*, 40, 441–451. http://dx.doi.org/10.1016/j.paid.2005.09.017.
- Christopher, A. N., Saliba, L., & Deadmarsh, E. J. (2009). Materialism and well-being: The mediating effect of locus of control. *Personality and Individual Differences*, 46, 682–686. http://dx.doi.org/10.1016/j.paid.2009.01.003.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with life scale. *Journal of Personality Assessment*, 49, 71–75.
- Emmons, R. A., & Crumpler, C. A. (2000). Gratitude as human strength: Appraising the evidence. *Journal of Social and Clinical Psychology*, 19, 56–69.
- Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology*, 84, 377–389.
- Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crises? A prospective study of resilience and emotions following the terrorist attacks on the united states on September 11th, 2001. *Journal of Personality and Social Psychology*, 84, 365–376.
- Froh, J. J., Emmons, R. A., Card, N. A., Bono, G., & Wilson, J. A. (2011). Gratitude and the reduced costs of materialism in adolescents. *Journal of Happiness Studies*, 12, 289–302. http://dx.doi.org/10.1007/s10902-010-9195-9.
- Froh, J. J., Kashdan, T. B., Ozimkowski, K. M., & Miller, N. (2009). Who benefits the most from a gratitude intervention in children and adolescents? Examining positive affect as a moderator. *Journal of Positive Psychology*, 4, 408–422.
- Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. New York: The Guilford Press.
- Howell, R. T., & Hill, G. (2009). The mediators of experiential purchases: Determining the impact of psychological needs satisfaction and social comparison. The Journal of Positive Psychology, 4, 511–522. http://dx.doi.org/ 10.1080/17439760903270993.
- Kashdan, T. B., & Breen, W. E. (2007). Materialism and diminished well-being: Experiential avoidance as a mediating mechanism. *Journal of Social and Clinical Psychology*, 26, 521–539.
- Kashdan, T. B., Uswatte, G., & Julian, T. (2006). Gratitude and hedonic and eudaimonic well-being in Vietnam war veterans. Behaviour Research and Therapy, 44, 177–199.
- Kasser, T. (2002). *The high price of materialism*. Cambridge, MA: MIT Press.
- Kasser, T. (2004). The good life or the goods life? Positive psychology and personal well-being in the culture of consumption. In P. A. Linley & S. Joseph (Eds.), Positive psychology in practice (pp. 55–67). Hoboken, NJ: John Wiley & Sons Inc..
- Kasser, T., & Ryan, R. M. (1993). A dark side of the American Dream: Correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology*, 65, 410–422.
- Kasser, T., & Ryan, R. M. (1996). Further examining the American Dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin*, 22, 280–287.
- Kasser, T., & Ryan, R. M. (2001). Be careful what you wish for: Optimal functioning and the relative attainment of intrinsic and extrinsic goals. In P. Schmuck & K. M. Sheldon (Eds.), Life goals and well-being: Towards a positive psychology of human striving (pp. 116–131). Ashland, OH: Hogrefe & Huber.
- Lambert, N. M., Fincham, F. D., Stillman, T. F., & Dean, L. R. (2009). More gratitude, less materialism: The mediating role of life satisfaction. *The Journal of Positive Psychology*, 4, 32–42. http://dx.doi.org/10.1080/17439760802216311.
- Lambert, N. M., Graham, S. M., & Fincham, F. D. (2009). A prototype analysis of gratitude: Varieties of gratitude experiences. *Personality and Social Psychology Bulletin*, 35, 1193–1207. http://dx.doi.org/10.1177/0146167209338071.
- Lavy, S., & Littman-Ovadia, H. (2011). All you need is love? Strengths mediate the negative associations between attachment orientations and life satisfaction. Personality and Individual Differences, 50, 1050–1055.
- Lyubomirsky, S., & Layous, K. (2013). How do simple positive activities increase well-being? Current Directions in Psychological Science, 22, 57–62. http:// dx.doi.org/10.1177/0963721412469809.

- McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, 82, 112–127. http://dx.doi.org/10.1037//0022-3514.82.1.112.
- McCullough, M. E., Kilpatrick, S. D., Emmons, R. A., & Larson, D. B. (2001). Is gratitude a moral affect? *Psychological Bulletin*, 127, 249–266.
- Mueller, A., Mitchell, J. E., Peterson, L. A., Faber, R. J., Steffen, K. J., Crosby, R. D., et al. (2011). Depression, materialism, and excessive internet use in relation to compulsive buying. *Comprehensive Psychiatry*, 52, 420–424. http://dx.doi.org/10.1016/j.comppsych.2010.09.001.
- Norris, J. I., Lambert, N. M., DeWall, C. N., & Fincham, F. (2012). Can't buy me love? Anxious attachment and materialistic values. *Personality and Individual Differences*, 53, 666–669.
- Otero-López, J. M., Pol, E. V., Bolaño, C. C., & Mariño, M. J. S. (2011). Materialism, lifesatisfaction and addictive buying: Examining the causal relationships. *Personality and Individual Differences*, 50, 772–776. http://dx.doi.org/10.1016/ j.paid.2010.12.027.
- Pieters, R. (2013). Bidirectional dynamics of materialism and loneliness: Not just a vicious cycle. *Journal of Consumer Research*, 615–631. http://dx.doi.org/10.1086/ 671564
- Polak, E. L., & McCullough, M. E. (2006). Is gratitude and alternative to materialism? Journal of Happiness Studies, 7, 343–360.
- Richins, M. L. (2013). When wanting is better than having: Materialism, transformation expectations, and product-evoked emotions in the purchase process. *Journal of Consumer Research*, 40, 1–18.
- Richins, M. L., & Dawson, S. (1992). A consumer values orientation for materialism and its measurement: Scale development and validation. *Journal of Consumer Research*, 19, 303–319.
- Roberts, J. A., & Clement, A. (2007). Materialism and satisfaction with over-all quality of life and eight life domains. *Social Indicators Research*, 82, 79–92. http://dx.doi.org/10.1007/s11205-006-9015-0.
- Rodrigue, J. R., Baz, M. A., Widows, M. R., & Ehlers, S. L. (2005). A randomized evaluation of quality of life therapy with patients awaiting lung transplantation. *American Journal of Transplantation*, 5, 2425–2432.
- Rodrigue, J. R., Widows, M. R., & Baz, M. A. (2006). Caregivers of patients awaiting lung transplantation: Do they benefit when the patient is receiving psychological services? *Progress in Transplantation*, 16, 336–342.
- Ryan, L., & Dziurawiec, S. (2001). Materialism and its relationship to life satisfaction. Social Indicators Research, 55, 185–197.
- Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, 60, 410–421
- Sheldon, K. M. (2011). Integrating behavioral-motive and experiential-requirement perspectives on psychological needs: A two process model. *Psychological Review*, 118, 552–569. http://dx.doi.org/10.1037/a0024758.
- Sheldon, K. M., Abad, N., Ferguson, Y., Gunz, A., Houser-Marko, L., Nichols, C. P., et al. (2010). Persistent pursuit of need-satisfying goals leads to increased happiness: A 6-month experimental longitudinal study. *Motivation and Emotion*, 34, 39–48.
- Sheldon, K. M., & Hilpert, J. (2012). The balanced measure of psychological needs (BMPN) scale: An alternative domain general measure of need satisfaction. *Motivation and Emotion*, 36, 439–451.
- Solberg, E., Diener, E., & Robinson, M. (2004). Why are materialists less satisfied? In T. Kasser & A. D. Kanner (Eds.), *Psychology and consumer culture: The struggle for a good life in a materialistic world* (pp. 29–48). Washington, DC: American Psychological Association.
- Tabachnick, B. G., & Fidell, L. S. (2007). Using multivariate statistics (5th ed.). Boston, MA: Pearson.
- Toepfer, S. M., Cichy, K., & Peters, P. (2012). Letters of gratitude: Further evidence for author benefits. *Journal of Happiness Studies*, 13, 187–201.
- Tsang, J. (2007). Gratitude for small and large favors: A behavioral test. *The Journal of Positive Psychology*, 2, 157–167. http://dx.doi.org/10.1080/1743976070 1229019.
- Watkins, P. C., Woodward, K., Stone, T., & Kolts, R. L. (2003). Gratitude and happiness: Development of a measure of gratitude, and relationships with subjective wellbeing. Social Behavior and Personality, 31, 431–451.
- Wood, A. M., Froh, J. J., & Geraghty, A. W. A. (2010). Gratitude and well-being: A review and theoretical integration. *Clinical Psychology Review*, 30, 890–905. http://dx.doi.org/10.1016/j.cpr.2010.03.005.
- Wood, A. M., Joseph, S., & Maltby, J. (2008). Gratitude uniquely predicts satisfaction with life: Incremental validity above the domains and facets of the five factor model. *Personality and Individual Differences*, 45, 49–54. http://dx.doi.org/10.1016/j.paid.2008.02.019.