




The Dual Model of Materialism: Success Versus Happiness Materialism on Present and Future Life Satisfaction

M. Joseph Sirgy¹  · Grace B. Yu² · Dong-Jin Lee³ · Mohsen Joshanloo⁴ · Michael Bosnjak⁵ · Jinfeng Jiao⁶ · Ahmet Ekici⁷ · Eda Gurel Atay⁸ · Stephan Grzeskowiak⁹

Received: 17 December 2018 / Accepted: 26 July 2019 / Published online: 6 August 2019
© The International Society for Quality-of-Life Studies (ISQOLS) and Springer Nature B.V. 2019

Abstract

Materialism can influence life satisfaction both positively and negatively. We build on the dual model of materialism (Sirgy et al. *Social Indicators Research*, 110(1), 349–366, 2013) to make the case that two dimensions of materialism—success and happiness—may influence life satisfaction differently. Success materialism (wealth and material possessions is a sign of success in life) may influence life satisfaction positively, whereas happiness materialism (wealth and material consumption is a sign of happiness in life) may influence life satisfaction negatively. Success materialism contributes to life satisfaction because it serves to boost economic motivation and causing a rise in future satisfaction with their standard of living, which in turn contributes to future life satisfaction. Happiness materialism, in contrast, influences life satisfaction adversely through two paths. One path involves dissatisfaction with standard of living, which in turn influences life satisfaction in a negative way. The other negative path involves dissatisfaction with other life domains; that is, happiness materialism detracts from life satisfaction by undermining satisfaction in other life domains such as financial life, family life, social life, etc. Data from a large-scale representative survey of 7599 German adults provided good support for the hypotheses and more.

Keywords Materialism · Life satisfaction · Future life satisfaction · Economic motivation · Standard of living

✉ M. Joseph Sirgy
sirgy@vt.edu

Introduction

Materialism refers to the importance an individual attaches to worldly possessions (Belk 1984). The literature on materialism and behavioral outcomes is conflicting. On the one hand, previous research in the social sciences (economic psychology, marketing, and quality-of-life studies) has suggested that materialism leads to negative behavioral outcomes, such as dissatisfaction with life overall, dissatisfaction with social life, depression, anxiety, compulsive shopping, low financial well-being, etc. (e.g., Larsen et al. 1999; Richins 1994, 2004; Richins and Rudmin 1994; Roberts and Clement 2007). Conversely, there is research suggesting that materialism leads to positive behavioral outcomes. For example, Hudders and Pandelaere (2012) showed that materialistic individuals who purchase luxury products report high subjective well-being, compared to those who don't. The effect of luxury consumption on satisfaction with life seems to be more pronounced for high than low materialistic individuals (cf. Karabati and Cemalcilar 2010). Furthermore, Pieters (2013) was able to empirically demonstrate that increases in certain types of materialistic behaviors are associated with decreases in loneliness over time.

In addition, some research suggests that materialism could lead to both positive and negative behavioral outcomes, because materialism is multifaceted. For example, Ger and Belk (1999) addressed the dual nature of materialism—producing both positive and negative effects on subjective well-being. They were able to demonstrate that people in different cultures have varying cultural values. Specifically, in poorer countries (e.g., Romania), poverty can be overcome through wealth and material acquisition, whereas in richer countries (e.g., the U.S.) material wealth is viewed as an economic achievement. Dittmar et al. (2014) suggested that when materialism is assessed in terms of money-related goals it fails to significantly predict life satisfaction. However, when materialism is assessed through a broader array of materialistic goals (e.g. image and status), materialism becomes a significant positive predictor of life satisfaction. The author suggested that treating materialism as a single and aggregate phenomenon may mask its role in a variety of behavioral outcomes. These studies clearly reinforce the notion that the construct of materialism is multifaceted (i.e., involving more than one dimension) and certain aspects of materialism may contribute to positive behavioral outcomes while other aspects may contribute to negative outcomes.

How could materialism influence life satisfaction both positively and negatively? A study conducted by Sirgy et al. (2013) addressed this paradox (i.e., materialism leading to both negative and positive consequences) by attempting to reconcile the previous two contrasting viewpoints testing the hypothesis that materialism may lead to life satisfaction positively and negatively. When materialistic people evaluate their standard of living using fantasy-based expectations (e.g., ideal expectations), it causes them to evaluate their standard of living negatively. In turn, dissatisfaction with standard of living makes them evaluate their life negatively. However, materialistic individuals who evaluate their standard of living using reality-based expectations (e.g., ability expectations) may feel economically motivated, and this economic motivation may contribute positively to life satisfaction. These authors tested this hypothesis using survey data collected from seven major cities each in a different country (Australia, Bosnia-Herzegovina, Germany, Egypt, South Korea, Turkey, and the USA) and the results were supportive of the hypothesis. See Fig. 1.

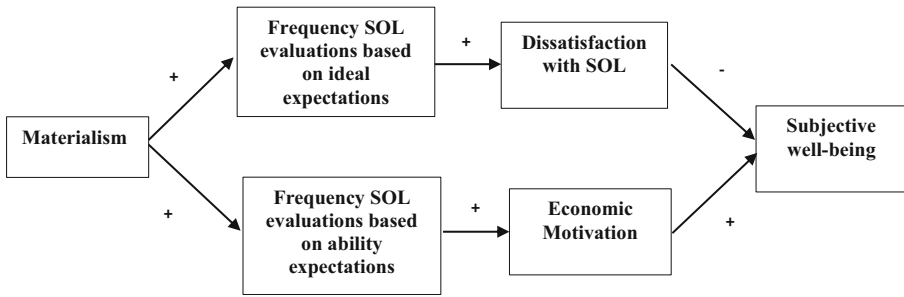


Fig. 1 The Sirgy et al.'s (2013) model linking materialism with subjective well-being. Note. SOL = Standard of Living

Our current model builds on the Sirgy et al. (2013)'s model, which we refer to as the "Dual Model of Materialism." *The goal is to further enhance the model's explanatory power and to test the expanded model using a large-scale social survey in Germany to ensure generalizability of the study findings.* The current study is designed to enhance the explanatory power of the dual model of materialism by making a clear distinction between (1) two dimensions of materialism (happiness versus success materialism) and (2) two dimensions of life satisfaction (present life satisfaction versus future life satisfaction). The current modified dual model of materialism posits that happiness materialism is the dimension of materialism most likely to influence life satisfaction in negative ways. In contrast, success materialism may influence life satisfaction in positive ways. Happiness materialism tends to produce dissatisfaction with present standard of living as well as dissatisfaction with non-material life domains (social life, family life, community life, etc.). Dissatisfaction with standard of living and non-material life domains brings about dissatisfaction with the present life, which in turn brings about dissatisfaction with future life. In contrast, success materialism is positively associated with future life satisfaction through a different set of mediating factors. Success materialism heightens economic motivation, which in turn heightens anticipated future satisfaction with standard of living. Dissatisfaction with standard of living also fuels anticipated future satisfaction with standard of living, which in turn contributes to future life satisfaction (see Fig. 2). We will explain the refined version of the dual model of materialism in greater detail in the section below.

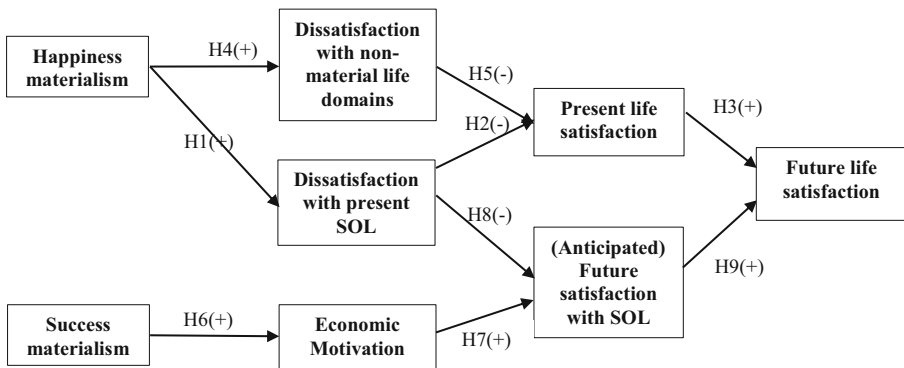


Fig. 2 Extending the model linking materialism with subjective well-being. Note. SOL = Standard of Living

Conceptual Development

As previously mentioned, the goal of this paper is to further enhance the model's explanatory power and to test the expanded model using a large-scale social survey in Germany to ensure generalizability of the study findings. To reiterate, the current study is designed to enhance the explanatory power of the dual model of materialism by making a clear distinction between (1) two dimensions of materialism (happiness versus success materialism) and (2) two dimensions of life satisfaction (present life satisfaction versus future life satisfaction). Materialism is a well-established construct in social and managerial sciences literature (Richins 2004; Richins and Dawson 1992). It is conceptualized as a personal value—materialistic people value possessions and their acquisition more highly than most other matters and activities in life. A popular measure of materialism is the Materialism Value Scale, which captures this personal value through three dimensions: (1) acquisition centrality, (2) happiness materialism, and (3) success materialism (Richins 2004). *Acquisition centrality* refers to the importance of possessions and their acquisition. In a way, this dimension measures the extent to which people place much emphasis on possessions. That is, people high on acquisition centrality are more materialistic than people who are low on acquisition centrality. The *happiness materialism* dimension refers to the belief that possessions and their acquisition bring happiness to people's lives. An example capturing happiness materialism is "I believe that I would be happier if I could afford to buy more things" (cf. Promislo et al. 2017). The *success materialism* dimension refers to the notion that materialistic people judge their own and others' success by the number and quality of possessions accumulated. In other words, people acquire possessions to view themselves as successful and to impress others by their *success*. An example of a survey item capturing success materialism is "I like to own things that impress people." In this study, we focus on the dimensions of happiness and success only because our hypotheses did not have any bearing on the centrality dimension.

Life satisfaction, on the other hand, is a three-dimensional concept involving judgments of life satisfaction by evaluating (1) one's life up to the present (*present life satisfaction*), (2) one's anticipated future life (*future life satisfaction*), and (3) one's life in the distant past (*past life satisfaction*) (Diener et al. 1999; Sirgy 2012). The distinction among past, present, and future life satisfaction is important because these three constructs have different determinants and lead to different outcomes (Diener et al. 1999; Sirgy 2012). The reader can better understand the conceptual distinctions among judgments of life satisfaction by focusing on how these various judgments of life satisfaction are measured in large-scale social surveys. For example, the *National Child Development Survey*, a well-established large-scale social survey, has employed the following survey item to capture present life satisfaction: "How satisfied are you with your life so far?" Future life satisfaction is captured by the following item: "How satisfied do you expect to be with your life in 5 years from now?" Past life satisfaction is measured through the following item: "How satisfied were you with your life 5 years ago?" (Sirgy 2012, p. 572). The study reported here focuses on the first two dimensions of life satisfaction, namely present life satisfaction and future life satisfaction.

The Effect of Happiness Materialism on Life Satisfaction

The conceptual model is shown in Fig. 2. The model posits that happiness materialism influences life satisfaction in negative ways. In contrast, success materialism influences

life satisfaction in positive ways. Happiness materialism produces dissatisfaction with present standard of living as well as dissatisfaction with other life domains (social life, family life, community life, etc.). Dissatisfaction with standard of living and other life domains deflates present life satisfaction, which in turn deflates future life satisfaction.

Previous research has demonstrated a negative correlation between materialism and subjective well-being (Larsen et al. 1999; Wright and Larsen 1993). People who are high in materialism tend to have lower levels of satisfaction with their lives overall and especially with their standard of living (e.g., Belk 1985, 1988; Dawson and Bamossy 1991; Richins 1987; Richins and Dawson 1992); they also tend to have poorer social adjustment and mental health (e.g., Kasser and Ryan 1993). As opposed to the common belief among materialistic people that acquisition of material possessions leads to greater happiness, previous research has shown the opposite: subjective ill-being, not well-being, is the result of a materialistic orientation (e.g., Belk 1984; Burroughs and Rindfleisch 2002; Dawson and Bamossy 1991; Keng et al. 2000; La Barbera and Gürhan 1997; Richins 1987; Richins and Dawson 1992; Wright and Larsen 1993).

The negative relationship between materialism and subjective well-being is commonly explained using two alternative theories: top-down theory of subjective well-being and bottom-up theory of subjective well-being (Diener and Fujita 1995; Diener et al. 1999). The explanation based on the top-down theory of life satisfaction focuses on personality or dispositional factors (e.g., self-esteem, alienation, optimism, pessimism, neuroticism, and introversion/extraversion) that influence subjective well-being. In contrast, the explanation based on the bottom-up theory suggests that situational factors (e.g., satisfaction with standard of living, job, family, leisure, neighborhood, and community) influence subjective well-being. Specifically, based on the top-down theory, Belk (1985) argued that materialistic people are usually possessive, non-generous, and envious. As these are dispositional factors, reflecting a tendency to experience negative emotions, it is suggested that the negative affect related to dispositional materialism spills over (top-down) to influence subjective well-being (i.e., materialism negatively influences life satisfaction). On the other hand, the bottom-up theory states that life satisfaction is a function of evaluations of important life domains: people evaluate certain types of emotional experiences such as family life, leisure life, love life, work life, social life, spiritual life, and so on; and their overall life satisfaction is determined based on the evaluation of these emotional experiences. In other words, how one feels about important life domains affects life satisfaction judgments. One important life domain is *material life* (or standard of living assessed in material terms), which is related to the emotional reactions related to material possessions, household income, savings, investment, and other material resources related to personal wealth. Sirgy et al. (1998) demonstrated that the evaluation of standard of living mediates the negative relationship between materialism and life satisfaction. Specifically, their study found that materialistic people are less satisfied with their material acquisition and possessions and, in turn, experience lower subjective well-being than non-materialistic people (cf. Sirgy et al. 1998). Furthermore, Sirgy et al. (2013) conducted a study that supported the notion that materialistic individuals tend to engage in frequent evaluations of their standard of living based on ideal expectations, which are associated with decreased satisfaction with standard of living and decreased subjective well-being. An example of an ideal expectation is “I want to be very rich.” When people frequently

evaluate their current financial situation against such ideal standards, they are more likely to feel disappointed with their standard of living.

Individuals high on happiness materialism are likely to use unrealistic and high expectations in evaluating their standard of living, resulting in dissatisfaction with their standard of living. Dissatisfaction with their standard of living is likely to play a negative role in their judgment of present life satisfaction (Sirgy 1998; Sirgy et al. 1998; Sirgy et al. 2013). Dissatisfaction with present life is likely to be a major factor in their judgment of their future life. As such we will test the following hypotheses (see Fig. 2).

- *Happiness materialism fuels dissatisfaction with standard of living. That is, higher happiness materialism reduces the satisfaction with standard of living* (Hypothesis 1; see Fig. 2)
- *Satisfaction with standard of living increases present life satisfaction. That is, higher satisfaction with standard of living increases present life satisfaction* (Hypothesis 2; see Fig. 2).
- *Satisfaction with present life contributes to feelings of satisfaction with future life. That is, higher present life satisfaction increases future life satisfaction* (Hypothesis 3; see Fig. 2).

The reader should also note that there is another negative path between happiness materialism and life satisfaction. The path, as shown in Fig. 2, stipulates that happiness materialism leads to decreased present life satisfaction through increased dissatisfaction in non-material life domains. Previous research suggests that people who place more importance to material life are more likely to be less satisfied with other life domains, such as social relationships (Kasser 2002; Lane 2000). Moreover, research on money priming suggests that reminders of money—whether it is real money or symbolic representations (words, thoughts) would make people disinterested in social contact (Vohs 2015; Vohs et al. 2006). Non-materialistic people, on the other hand, are more likely to be interested in social relationships and, thus, report lower levels of family stress (Roberts et al. 2005). In line with this past research, we believe that non-materialistic people are likely to invest much time and energy in other life domains besides material life; therefore are likely to derive satisfaction from other life domains (Kasser and Ryan 1993). This path constitutes a further refinement of the dual model of materialism (Sirgy et al. 2013) by showing that the negative effects of materialism are multifaceted. In other words, the modified dual model of materialism expands the explanatory power of the original model by demonstrating that the negative path is essentially twofold. As such the following hypotheses will be tested:

- *Happiness materialism fuels dissatisfaction with non-material life domains such as social life, family life, and community life (the higher happiness materialism the higher the dissatisfaction with non-material life domains)* (Hypothesis 4; see Fig. 2).
- *Dissatisfaction with non-material life domains detracts from present life satisfaction (the higher the dissatisfaction with non-material life domains the lower the present life satisfaction)* (Hypothesis 5; see Fig. 2).

The Effect of Success Materialism on Life Satisfaction

As shown in Fig. 2, success materialism is positively associated with future life satisfaction through a different set of mediating factors. Success materialism heightens economic motivation, which in turn heightens anticipated future satisfaction with standard of living. Dissatisfaction with standard of living also fuels anticipated future satisfaction with standard of living, which in turn contributes to future life satisfaction.

Success materialism may contribute to increased levels of subjective well-being through a different psychological path. Previous research show that materialistic people (those who believe that material acquisition and possessions is a sign of success in life) have a higher desire for money, income, and material goods, which motivates them to work harder (Richins and Dawson 1992). In other words, success materialistic people tend to work harder or longer periods to raise their standard of living. The motivation to raise their standard of living could increase success materialists' ability to make capital improvements and invest in education, which in turn may lead to higher levels of productivity, and again, higher living standards. In other words, success materialism is likely to play a key role in economic motivation. Consistent with previous research, and based on the self-efficacy concept, we define economic motivation as the drive to achieve economic goals (e.g., Bandura 1997; Diener and Fujita 1995; McClelland 1967; McClelland et al. 1969). Because self-efficacy reflects people's confidence in their ability to take on and exert the necessary effort to succeed at economic tasks, people who frequently evaluate their standard of living positively based on their ability to get things done are likely to feel more economically motivated than those who do not (Sirgy et al. 2013). Individuals who are motivated to improve their economic circumstances are likely to anticipate that their standard of living would improve at some future point in time. In turn, anticipated future satisfaction with standard of living is likely to play a positive role in determining future life satisfaction judgments. The setting of goals and striving to attain these goals is an important element in subjective well-being (e.g., Emmons 1986; Green et al. 2006; Sheldon and Elliot 1999). In other words, the expectation of future success generates hope and optimism about one's life circumstances, which in turn induces positive evaluations about one's life. Furthermore, there is evidence in the quality-of-life research literature suggesting that income expectation is positively correlated with life satisfaction (e.g., Ekici and Koydemir 2016). The interpretation of this study finding is that expectation of increases in future income contributes to life satisfaction. As such, we will test the following hypotheses:

- *Success materialism fuels economic motivation (the higher success materialism the higher economic motivation)* (Hypothesis 6; see Fig. 2).
- *Economic motivation fuels anticipated future satisfaction with standard of living (the higher the economic motivation the higher the anticipated future satisfaction with standard of living)* (Hypothesis 7; see Fig. 2).
- *Dissatisfaction with present standard of living dampens anticipated future satisfaction with standard of living (the higher the dissatisfaction with present standard of living the lower the anticipated future satisfaction with standard of living)* (Hypothesis 8; see Fig. 2).

- *Anticipated future satisfaction with standard of living fuels future life satisfaction (the higher the anticipated future satisfaction with standard of living the higher the future life satisfaction)* (Hypothesis 9; see Fig. 2)

Conceptual Development: Summary

The expanded dual model of materialism posits that happiness materialism influences life satisfaction in negative ways. In contrast, success materialism influences life satisfaction in positive ways. Happiness materialism produces dissatisfaction with present standard of living as well as dissatisfaction with other life domains (social life, family life, community life, etc.). Dissatisfaction with standard of living and other life domains deflates present life satisfaction, which in turn deflates future life satisfaction.

In contrast, success materialism is positively associated with future life satisfaction through a different set of mediating factors. Success materialism heightens economic motivation, which in turn heightens anticipated future satisfaction with standard of living. Dissatisfaction with standard of living also fuels anticipated future satisfaction with standard of living, which in turn contributes to future life satisfaction.

Thus, the expanded model is designed to build on the original model (Sirgy et al. 2013) by enhancing its explanatory power. It does in three ways. First, the expanded model makes a clear distinction between two dimensions of materialism, namely happiness materialism versus success materialism. Second, the new model makes a distinction between present life satisfaction and future life satisfaction. Third, the new model demonstrates that the negative path of materialism to life satisfaction is essentially twofold, one path through dissatisfaction with standard of living, the other is through dissatisfaction with non-material life domains (health, residential life, leisure life, family life, work life, and home life).

Note the new model deleted the constructs of frequency standard-of-living evaluations based on ideal and ability expectations. This was done because the results of the original model (Sirgy et al. 2013) showed that both types of evaluations of standard of living (based on ideal expectations versus ability expectations) are related to overall materialism. Given that we made the distinction between happiness and success materialism, the explanatory power the two types of standard-of-living evaluation is diminished. As such, these constructs were not included in the new model.

To test the expanded dual model of materialism (as shown in Fig. 2), data were collected through a large-scale social survey in Germany. The survey will be described in the section below.

Method

Sampling, Data Collection, and Survey Design

The conceptual model as shown in Fig. 2 was tested through a large-scale social survey administered to a sample of German panel members of the GESIS Leibniz Institute for the Social Sciences. One of the key benefits of using GESIS panel data is to obtain demographically representative responses on attitudes and behaviors of the respondents

(Bosnjak et al. 2018). A total of 7599 members of the GESIS Panel, matching the German general adult population, provided data. Sixty-two percent of respondents participated in the online version of the survey while 38% of respondents participated in the mail survey version. The demographic profile of respondents in this study is shown in Table 1. As shown in Table 1, there is a great deal of variability in the sample demographic profile (age, gender, marital status, employment, net monthly income, and number of people living in household). Detailed information about the project, sample, and data collection procedure are available from <http://www.gesis-panel.org/>.

Measures

Materialism Materialism was measured with the 15-item version of the Materialism Value Scale which involves three dimensions of success, centrality, and happiness (Richins 2004; Richins and Dawson 1992). Among the three dimensions of materialism, we used the items capturing success materialism and happiness materialism, not centrality materialism because our hypotheses did not have any bearing on the centrality dimension. An example of a survey item capturing success materialism is “I like to own things that impress people.” An example capturing happiness materialism is “I believe that I would be happier if I could afford to buy more things.” See all the measurement items in the [Appendix](#).

Dissatisfaction with Standard of Living Satisfaction with standard of living is used interchangeably with such constructs as satisfaction with material life (Richins 1994; Richins and Rudmin 1994), subjective economic well-being (Hayo and Seifert 2003), and satisfaction with material possessions (Ogden and Venkat 2001). Measurements used this study were adapted from those studies. Participants were asked to report their own feelings about the things they own, their standard of living, and their financial situation overall on five-point semantic differential scales (happy/unhappy, good/bad, enthusiastic/miserable, satisfied/frustrated, realized/disappointed, wealthy/very poor).

Table 1 Sample characteristics (N = 7599)

Sample Characteristics					
Age		Marital status:		Employment	
Born before 1950	12.8%	single	31.5%	Full-time employed	47.8%
Born btw 1951–1960	20.5%	Married (living together)	54.9%	Part-time employed	15.1%
Born btw 1961–1970	24.8%	Married (living apart)	2.0%	Maternity or other leave	2.1%
Born btw 1971–1980	16.3%	divorced	8.4%	Not employed	26.4%
Born after 1981	25.6%	widowed	3.0%	Else	8.6%
Gender:		Net monthly household income		People living in the household	
Female	50.7%	Less than €2000	26.1%	1	15.7%
Male	49.3%	€2000–3200	35.4%	2	35.8%
Citizenship		€3200–5000	26.8%	3	21.6%
Germany	92.1%	More than €5000	11.7%	4	18.4%
Others	7.9%			5 and more	8.6%

Anticipated Future Satisfaction with Standard of Living This construct was measured by six items developed based on the *satisfaction with standard of living* measures. Example items include “I anticipate that I will be happy with my income in the foreseeable future” and “I expect that my financial situation will be significantly improved in the near future.” A 5-point Likert-type scale was used to capture survey responses. This measure was developed specifically for use in this study.

Economic Motivation In the economic psychology literature, economic motivation is also referred to as “motivation for economic success” (Winter-Ebmer 1994), “need for achievement” (McClelland 1967; McClelland et al. 1969), and “work motivation” (Richins 1994; Richins and Rudmin 1994). Guided by past research on that topic, we developed our own economic motivation measure to capture this construct. Example items include “I feel like I am driven to work hard to achieve a higher standard of living” and “I feel extra motivated to make a better income.” A 5-point Likert-type scale was used to capture survey responses.

Life Satisfaction We used a single item to measure present life satisfaction (“All things considered, how satisfied are you with your current life?”) and future life satisfaction (“And how do you think it will be in a year from now?”) (OECD 2013, p. 166). An 11-point rating scale was used to capture survey responses and then transformed into a 5-point scale (extremely dissatisfied/extremely satisfied to make all the satisfaction scales consistent with one another).

Dissatisfaction with Non-material Life Domains A great amount of quality-of-life studies have used domain satisfaction measures (see Sirgy 2012, for a literature review). Following existing literature, we asked respondents about their satisfaction with various life domains such as family, work, leisure, financial situation, and health, and reverse coded them. Example items include “How satisfied are you with your health? Or “How satisfied are you with your leisure life?” An 11-point rating scale was used to capture survey responses and then transformed into 5-point scales (fully satisfied/fully unsatisfied). We then formed an average composite index of dissatisfaction with non-material life domains (see the Appendix). Additional detailed information about the items used in the survey is available from <http://www.gesis-panel.org/>.

Results

The results section reports findings related to the measurement model followed by results related to the structural model.

Testing the Measurement Model

To examine the psychometric properties of the measures used in this study, we assessed the convergent and discriminant validity of the constructs by conducting a confirmatory factor analysis (CFA) (see Table 2). Results showed that there is a good fit to the data

Table 2 Confirmatory factor analysis

Variables	Items	Coefficient	t-value	Alpha	Average Variance Extracted	Composite Reliability
Success Materialism	Success1	0.744	70.048	0.755	0.692	0.784
	Success2	0.585	51.600			
	Success3	0.752	71.177			
	Success4	0.672	61.350			
Happiness Materialism	Happiness1	0.830	85.993	0.867	0.801	0.877
	Happiness2	0.883	94.732			
	Happiness3	0.722	70.412			
	Happiness5	0.760	75.617			
Dissatisfaction with Standard of Living (SOL)	SatSol1	0.860	92.609	0.931	0.832	0.928
	SatSol2	0.873	94.979			
	SatSol3	0.757	76.374			
	SatSol4	0.836	88.643			
	SatSol5	0.776	79.163			
	SatSol6	0.855	91.776			
Economic Motivation	EM1	0.662	63.883	0.922	0.834	0.925
	EM2	0.884	97.234			
	EM3	0.930	105.957			
	EM4	0.824	86.892			
	EM5	0.896	99.432			
Anticipated future satisfaction with SOL	Future1	0.521	45.844	0.818	0.730	0.815
	Future3	0.643	59.021			
	Future4	0.879	88.950			
	Future6	0.822	81.111			
Dissatisfaction with non-material life domains	DS	1.00	–	–	–	–
Present life satisfaction	Current LS	1.00	–	–	–	–
Future life satisfaction	Future LS	1.00	–	–	–	–

χ^2 (p value) = 9424.745 (.00), df = 274; CFI = 0.932; GFI = 0.908; NFI = 0.930; RMSEA = 0.068

(χ^2 (p value) = 9424.745 (.00), df = 274; CFI = 0.932; GFI = 0.908; NFI = 0.930; RMSEA = 0.068), and that all factor loadings are statistically significant, composite reliabilities of all constructs are greater than 0.784, and all variance extracted estimates are greater than 0.69. In sum, these results demonstrate adequate evidence of convergent validity of the measures (cf. Fornell and Larcker 1981).

Regarding discriminant validity, the square root of the Average Variance Extracted (AVE) of each construct should be larger than the correlation of the specific construct with any of the other constructs in the model (Chin 1998). Table 3 shows that the square root of the AVE for each construct was greater than the off-diagonal elements in the corresponding rows and column, demonstrating discriminant validity (see Table 3).

Table 3 Correlations among the constructs (Phi Matrix)

	1	2	3	4	5	6	7	8
1.Success materialism	.832							
2.Happiness materialism	.783	.895						
3.Dissatis w/non-material life domains	.130	.227	–					
4.Dissatisfaction with present SOL	.263	.459	.417	.912				
5. Economic motivation	.531	.499	.120	.238	.913			
6.(Anticipated) Future SOL satisfaction	.188	.120	–.101	–.161	.391	.854		
7.Current life satisfaction	–.098	–.183	–.250	–.389	–.083	.099	–	
8.Future life satisfaction	–.081	–.139	–.230	–.344	–.057	.160	.380	–

Italicized are significant at 99% CI

Diagonal elements are the square roots of the AVE of each construct

SOL = standard of living

Hypothesis Testing

We tested the hypotheses using structural equations modeling. The results indicate a good fit to the data [χ^2 (p value) = 733.371 (.00), df = 14; CFI = 0.974; GFI = 0.977; NFI = 0.973; RMSEA = 0.082] and are summarized in Table 4.

The Effect of Happiness Materialism on Life Satisfaction Testing the effect of happiness materialism on life satisfaction required the testing of five hypotheses (H1-H5). The first hypothesis (H1) states that happiness materialism fuels dissatisfaction with standard of living (the higher happiness materialism the higher the dissatisfaction with standard of living). The results indicate that happiness materialism had a positive impact on dissatisfaction with present standard of living (standardized estimate = 0.413; $p < .01$). The results support H1.

Table 4 Path analysis results

Structural Relationship	Estimate (t-value)	
	Estimate	t-value
H1: Happiness Materialism → Dissatisfaction with present SOL	0.413**	(39.586)
H2: Dissatisfaction with present SOL → Present life satisfaction	–0.204**	(–17.299)
H3: Present life satisfaction → Future life satisfaction	0.966**	(87.723)
H4: Happiness Materialism → Dissatisfaction with non-material life domain	0.356**	(33.196)
H5: Dissatisfaction with non-material life domain → Present life satisfaction	–0.459**	(–38.475)
H6: Success Materialism → Economic motivation	0.462**	(45.488)
H7: Economic motivation → Future satisfaction with SOL	0.411**	(38.561)
H8: Dissatisfaction with present SOL → Future satisfaction with SOL	–0.209**	(–19.629)
H9: Future satisfaction with SOL → Future life satisfaction	0.086**	(13.380)

χ^2 (p value) = 733.371 (.00), df = 14; CFI = 0.974; GFI = 0.977; NFI = 0.973; RMSEA = 0.082

** Significant at the 0.01 level; * Significant at the 0.05 level

The second hypothesis (H2) states that dissatisfaction with standard of living detracts from present life satisfaction (the higher the dissatisfaction with standard of living the lower the present life satisfaction). The results show that this indeed is the case (standardized estimate = -0.204 , $p < .01$), supporting H2.

The third hypothesis (H3) states that satisfaction with present life contributes to feelings of satisfaction with future life (the higher the present life satisfaction the higher the future life satisfaction). The results supported H3 (standardized estimate = 0.966 , $p < .01$).

The fourth hypothesis (H4) states that happiness materialism fuels dissatisfaction with non-material life domains such as social life, family life, and community life (the higher happiness materialism the higher the dissatisfaction with non-material life domains). The results indicate that happiness materialism had a positive predictive effect on dissatisfaction with non-material life domain (standardized estimate = 0.356 ; $p < .01$), supporting H4.

The fifth hypothesis (H5) states that dissatisfaction with non-material life domains detracts from present life satisfaction (the higher the dissatisfaction with non-material life domains the lower the present life satisfaction). The results indicate that dissatisfaction with non-material life domains had a negative predictive effect on present life satisfaction (standardized estimate = -0.459 ; $p < .01$), supporting H5.

The Effect of Success Materialism on Life Satisfaction Testing the effect of success materialism on life satisfaction required the testing of four hypotheses (H6-H9). Hypothesis 6 (H6) states that success materialism fuels economic motivation (the higher success materialism the higher economic motivation). The results show that success materialism had a significant and positive predictive effect on economic motivation (standardized estimate = 0.462 , $p < .01$), supporting H6.

Hypothesis 7 (H7) states that economic motivation fuels anticipated future satisfaction with standard of living (the higher the economic motivation the higher the anticipated future satisfaction with standard of living). The results indicate that economic motivation had a positive impact on anticipated future satisfaction with standard of living (standardized estimate = 0.411 ; $p < .01$). Thus, the results support H7.

Hypothesis 8 (H8) states that dissatisfaction with present standard of living dampens anticipated future satisfaction with standard of living (the higher the dissatisfaction with present standard of living the lower the anticipated future satisfaction with standard of living). The results indicate that dissatisfaction with present standard of living had a negative impact on anticipated future satisfaction with standard of living (standardized estimate = -0.209 ; $p < .01$). Thus, the results support H8.

The final hypothesis (H9) states that anticipated future satisfaction with standard of living fuels future life satisfaction (the higher the anticipated future satisfaction with standard of living the higher the future life satisfaction). The results indicate that anticipated future satisfaction with standard of living had a positive impact on future life satisfaction (standardized estimate = 0.086 ; $p < .01$). Hence, the results support H9.

Discussion

The main purpose of this paper is to report the results of a study that makes a distinction between success materialism and happiness materialism and showing how these two

dimensions of materialism influence different aspects of subjective well-being. Happiness materialism seems to be the culprit—it is associated with dissatisfaction with standard of living, which in turn influences present and future life satisfaction in an adverse manner. Happiness materialism also seems to further detract from subjective well-being by taking much time, energy, and money away from other life domains that make an important and positive contribution to present life satisfaction. That is, when individuals become too focused on material acquisition and possessions they may not well attend to satisfying human developmental needs as manifested in other life domains such as family life, work life, health, and leisure. As such, happiness materialism becomes a major detractor to life satisfaction. In contrast, success materialism contributes positively to life satisfaction. It does so by directly heightening individuals' economic motivation, which in turn elevates anticipated future satisfaction with standard of living. Increased levels of anticipated future satisfaction of standard of living play a positive role in increasing future life satisfaction. It should be noted that dissatisfaction with present standard of living detracts from anticipated future satisfaction with standard of living, as expected.

These expectations as captured by our modified dual model of materialism (and its nine hypotheses) were supported by a large-scale social survey in Germany. That is, the study results provided reasonable support for the dual paths. Specifically, the study findings build on previous findings (Sirgy et al. 2013) by demonstrating that the dual effects of materialism lie in the distinction between happiness materialism and success materialism as well as between present life satisfaction and future life satisfaction. The study findings also demonstrate that the mediating effects between materialism and subjective well-being are more complex than originally conceived. As a reminder, the original model shows that materialism leads to dissatisfaction with standard of living, which in turn influence subjective well-being in negative ways. Conversely, materialism was shown to influence subjective well-being positively by heightening economic motivation. Furthermore, our revised dual model of materialism makes an additional contribution to the materialism/quality-of-life literature by showing that different facets of materialism affect different facets of life satisfaction. Past research has focused exclusively on present life satisfaction. Our model and study results show that there is a clear benefit to distinguish present life satisfaction from future life satisfaction.

Future research could focus on how materialism plays a role in moderating the effects of income on life satisfaction. There is much evidence suggesting that income does contribute to life satisfaction because increases in income allows individuals to meet unfulfilled needs (e.g., Hagerty and Veenhoven 2003; Inglehart et al. 2008; Veenhoven and Hagerty 2006). As such, increased income contributes to life satisfaction by enhancing satisfaction with standard of living, which in turn spills over to life satisfaction. One can argue that materialism makes the positive income-life satisfaction relationship even stronger because materialism facilitates increased spending on material possessions as income increases, and increased spending on material possessions should contribute to increases in satisfaction with standard of living (Richins 2011; Watson 2003). Yet, one can counter argue that materialism could weaken the income-life satisfaction relationship because materialistic individuals are likely to evaluate their standard of living using ideal, fantasy-based, and unrealistic expectations (Sirgy et al. 1998). As such, the more money that materialistic people make the more likely that they would evaluate their standard of living using unrealistic and inflated expectations

making them feel dissatisfied with their standard of living, which in turn detracts from their life satisfaction. The distinction we made between success and happiness materialism may help capture these contrasting effects. As such we hypothesize that success materialism may strengthen the relationship between income and life satisfaction; whereas, happiness materialism may weaken this effect. Future research may test this hypothesis.

There are of course limitations to the study reported here. Although the study identified three distinct paths explaining the effect of materialism on life satisfaction, it is still less clear which mechanism or path has a greater influence on life satisfaction in a given situation. In other words, there may be moderators of all types that may account for the conditions that may lead an individual through a positive path or a negative one. These moderators may be personality traits, culture, and situational factors. Consider the possible moderation effects of personality traits such as greed (Krekels and Pandelaere 2015). Greedy individuals are likely to travel down the negative path of happiness materialism much more so than the positive path involving success materialism. Greedy individuals have an insatiable appetite for material possessions causing them to magnify their experiences along the negative path. Future research should examine underlying factors affecting relative efficacy of these good and bad sides of materialism.

The study reported in this paper tested the model at one point in time using a cross-sectional survey. As such, it is rather difficult to argue for causation. One way to demonstrate causation is through longitudinal surveys. Longitudinal surveys should track the changes in the materialism and life satisfaction relationship over time and the factors affecting the changes. As such, we may be able to demonstrate causation. Another approach is experimental. Experiments can be set up by manipulating different levels of happiness and success materialism while observing their effects on the mediating variables (dissatisfaction with present standard of living, dissatisfaction with non-material life domains, economic motivation, etc.).

In addition to the use of longitudinal surveys and experiments to demonstrate causality, surveys with different samples (e.g., cross-cultural samples) and different measures for the same constructs should also be used to replicate our findings to ensure our model is equally predictive. These replication studies may especially be helpful to understand why the relationship between anticipated future satisfaction with SOL is a significant (but weak) predictor of future life satisfaction. It is possible, for instance, that the items used to measure the anticipated future satisfaction are not sensitive enough to capture the true essence of the construct. Future studies may use a different measure of anticipated future satisfaction with SOL to examine if its impact on future life satisfaction still holds.

Furthermore, it should be noted that probability-based panels such as the one used in our study are afflicted with methodological challenges and limitations (see Weiß et al. [in press](#), for a comprehensive overview). Two of the key limitations involve panel conditioning effects and measurement problems. Panel conditioning refers to the possibility that answers to surveys may change as a function of the frequency of past survey participations. For example, a significant panel conditioning effect was reported on repeated knowledge questions (Burgard et al. 2019). With respect to measurement problems, the GESIS Panel we have used employed two self-administered survey modes, web- and mail-based surveys combined. Establishing measurement equivalence

between these two modes is a challenge, and requires comprehensive pretesting studies of instruments which would have exceeded our resources by far. As such, we recommend that our study findings should be replicated with other non-panel survey methods.

What might be policy implications of our model? The negative paths of materialism on present life satisfaction should alert politicians and public officials of the danger in emphasizing happiness materialism in public discourse. When politicians and public officials (particularly in Germany where our study sample was drawn) encourage consumerism and material consumption in an effort to stimulate economic growth, they risk heightening people's expectations of their standard of living, which in turn is likely to influence present life satisfaction in negative ways. Instead of focusing on consumerism and material consumption, politicians and public officials should address aspects of success materialism. Specifically, they should emphasize how the desire for material consumption is fundamental to economic motivation, future economic prosperity, and future life satisfaction.

Compliance with Ethical Standards

Conflict of Interest The authors identified on this page conducted the research reported in this paper independently and without financial support from any source. Similarly, publication of the paper will not accrue any financial benefit to any of the authors either separately or together.

Appendix: Constructs and Measurement Items

Materialism (responses were captured using 5-point Likert scales)

1) **Success**

1. I admire people who own expensive homes, cars, and clothes.
2. I believe that the things I own say a lot about how well I am doing in life.
3. I like to own things that impress people.
4. I believe that some of the most important achievements in life include acquiring material possessions
5. I do not place much emphasis on the amount of material objects people own as a sign of success. ®

2) **Happiness**

1. I believe that my life would be better if I owned certain things I do not have
2. I believe that I would be happier if I could afford to buy more things.
3. It sometimes bothers me quite a bit that I cannot afford to buy all the things I would like.
4. I have all the things I really need to enjoy life. ®
5. I would be happier if I owned nicer things.

Dissatisfaction with Standard of Living (SOL) (responses were captured using 5-point semantic differential scales).

How do you feel about your standard of living? Please think of the material things you own, your financial situation, the household income, and your consumption lifestyle.

1. Happy/Unhappy
2. Good/Bad
3. Enthusiastic/ Miserable
4. Satisfied/Frustrated
5. Realized/ Disappointed
6. Satisfied/ Disappointed
7. Wealthy/Very poor

Dissatisfaction with Non-Material Life Domains (responses were captured using 11-point rating scales and transformed into 5-point scales)

1. How satisfied are you with your health?
2. How satisfied are you with your flat or your house?
3. How satisfied are you with your leisure time?
4. How satisfied are you with your family life?
5. How satisfied are you with your work?
6. How satisfied are you with your household activities?

Anticipated Future Satisfaction with Standard of Living (SOL) (responses were captured using 5-point Likert scales)

1. I anticipate that I will be happy with my income in the foreseeable future.
2. I talk a lot about how I will be happier in the future with the more income I will make.
3. I am optimistic about my future income.
4. I am hopeful that my financial situation will be significantly improved.
5. On many occasions I have expressed positive feelings about my income in the next few years.
6. I expect that my financial situation will be significantly improved in the near future.

Economic Motivation (responses were captured using 5-point Likert scales)

1. I feel like I am driven to work hard to achieve a higher standard of living.
2. I feel extra motivated to make a better income.
3. I have a strong drive to achieve a better financial situation.
4. I feel extra motivated to make a decent income.
5. I have a strong drive to improve my financial situation.

Present Life Satisfaction (responses were captured using 11-point rating scale and transformed into 5-point scale)

1. How satisfied are you at the moment overall with your life?

Future Life Satisfaction (responses were captured using 11-point rating scale and transformed into 5-point scales)

1. And how do you think it will be in a year from now?

References

- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Belk, R. W. (1984). Three scales to measure constructs related to materialism: Reliability, validity, and relationships to measures of happiness. *Advances in Consumer Research*, 11(1), 291–297.
- Belk, R. W. (1985). Materialism: Trait aspects of living in the material world. *Journal of Consumer Research*, 12(3), 265–280.
- Belk, R. W. (1988). Possessions and the extended self. *Journal of Consumer Research*, 15(2), 139–168.
- Bosnjak, M., Dannwolf, T., Enderle, T., Schaurer, I., Struminskaya, B., Tanner, A., & Weyandt, K. W. (2018). Establishing an open probability-based mixed-mode panel of the general population in Germany: The GESIS panel. *Social Science Computer Review*, 36, 103–115.
- Burgard, T., Bosnjak, M., & Kasten, N. (2019). Moderators of panel conditioning effects. A meta-analysis. Presentation given at the 21st General Online Research Conference, TH Köln, March 8, 2019, Cologne. <https://doi.org/10.23668/psycharchives.2374>
- Burroughs, J. E., & Rindfleisch, A. (2002). Materialism and well-being: A conflicting values perspective. *Journal of Consumer Research*, 29(3), 348–370.
- Chin, W. W. (1998). Issues and opinion on structural equation modeling. *MIS Quarterly*, 22(1), 7–16.
- Dawson, S., & Bamossy, G. (1991). If we are what we have, what are we when we don't have? An exploratory study of materialism among expatriate Americans. *Journal of Social Behavior & Personality*, 6(6), 363–384.
- Diener, E., & Fujita, F. (1995). Resources, personal strivings, and subjective well-being: A nomothetic and idiographic approach. *Journal of Personality and Social Psychology*, 68(5), 926–935.
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125(2), 276–302.
- Dittmar, H., Bond, R., Hurst, M., & Kasser, T. (2014). The relationship between materialism and personal well-being: A meta-analysis. *Journal of Personality and Social Psychology*, 107(5), 879–924.
- Ekici, T., & Koydemir, S. (2016). Income expectations and happiness: Evidence from British panel data. *Applied Research in Quality of Life*, 11(4), 539–552.
- Emmons, R. A. (1986). Personal strivings: An approach to personality and subjective well-being. *Journal of Personality and Social Psychology*, 51(5), 1058–1075.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Ger, G., & Belk, R. W. (1999). Accounting for materialism in four cultures. *Journal of Material Culture*, 4(2), 183–204.
- Green, L. S., Oades, L. G., & Grant, A. M. (2006). Cognitive-behavioral, solution-focused life coaching: Enhancing goal striving, well-being, and hope. *The Journal of Positive Psychology*, 1(3), 142–149.
- Hagerty, M. R., & Veenhoven, R. (2003). Wealth and happiness revisited—growing national income does go with greater happiness. *Social Indicators Research*, 64(1), 1–27.
- Hayo, B., & Seifert, W. (2003). Subjective economic well-being in Eastern Europe. *Journal of Economic Psychology*, 24(3), 329–348.
- Hudders, L., & Pandelaere, M. (2012). The silver lining of materialism: The effects of luxury consumption on subjective well-being. *Journal of Happiness Studies*, 13(3), 411–437.
- Inglehart, R., Foa, R., Peterson, C., & Welzel, C. (2008). Development, freedom, and rising happiness: A global perspective (1981–2007). *Perspectives on Psychological Science*, 3(4), 264–285.
- Karabati, S., & Cemalcilar, Z. (2010). Values, materialism, and well-being: A study with Turkish university students. *Journal of Economic Psychology*, 31(4), 624–633.
- Kasser, T. (2002). *The high price of materialism*. Cambridge: MIT Press.
- 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(2), 410–422.

- Keng, K. A., Jung, K., Juan, T. S., & Wirtz, J. (2000). The influence of materialistic inclination on values, life satisfaction and aspirations: An empirical analysis. *Social Indicators Research*, 49(3), 317–333.
- Krekels, G., & Pandelaere, M. (2015). Dispositional greed. *Personality and Individual Differences*, 74(2), 225–230.
- La Barbera, P. A., & Gürhan, Z. (1997). The role of materialism, religiosity, and demographics in subjective well-being. *Psychology and Marketing*, 14(1), 71–97.
- Lane, R. E. (2000). *The loss of happiness in market democracies*. New Haven: Yale University Press.
- Larsen, V., Sirgy, M. J., & Wright, N. D. (1999). Materialism: The construct, measures, antecedents, and consequences. *Academy of Marketing Studies Journal*, 3(2), 78–110.
- McClelland, D. C. (1967). *Achieving society*. New York: Free Press.
- McClelland, D. C., Winter, D. G., & Winter, S. K. (1969). *Motivating economic achievement*. New York: Free Press.
- OECD (2013). OECD guidelines on measuring subjective well-being. Paris: OECD Publishing. <https://doi.org/10.1787/9789264191655>.
- Ogden, H., & Venkat, R. (2001). Social comparison and possessions: Japan vs. Canada. *Asia Pacific Journal of Marketing and Logistics*, 13(2), 72–84.
- Pieters, R. (2013). Bidirectional dynamics of materialism and loneliness: Not just a vicious cycle. *Journal of Consumer Research*, 40(4), 615–631.
- Promislo, M. D., Giacalone, R. A., & Deckop, J. R. (2017). Assessing three models of materialism–postmaterialism and their relationship with well-being: A theoretical extension. *Journal of Business Ethics*, 143(3), 531–541.
- Richins, M. L. (1987). Media, materialism, and human happiness. *Advances in Consumer Research*, 14(1), 352–356.
- Richins, M. L. (1994). Special possessions and the expression of material values. *Journal of Consumer Research*, 21(3), 522–533.
- Richins, M. L. (2004). The material values scale: Measurement properties and development of a short form. *Journal of Consumer Research*, 31(1), 209–219.
- Richins, M. L. (2011). Materialism, transformation expectations, and spending: Implications for credit use. *Journal of Public Policy & Marketing*, 30(2), 141–156.
- Richins, M. L., & Dawson, S. (1992). A consumer values orientation for materialism and its measurement: Scale development and validation. *Journal of Consumer Research*, 19(3), 303–316.
- Richins, M. L., & Rudmin, F. W. (1994). Materialism and economic psychology. *Journal of Economic Psychology*, 15(2), 217–231.
- Roberts, J. A., & Clement, A. (2007). Materialism and satisfaction with over-all quality of life and eight life domains. *Social Indicators Research*, 82(1), 79–92.
- Roberts, J. A., Tanner, J., & Manolis, C. (2005). Materialism and the family structure-stress relation. *Journal of Consumer Psychology*, 15(2), 183–190.
- Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology*, 76(3), 482–499.
- Sirgy, M. J. (1998). Materialism and quality of life. *Social Indicators Research*, 43(3), 227–260.
- Sirgy, M. J. (2012). *The psychology of quality of life: Hedonic well-being, life satisfaction, and eudaimonia*. Dordrecht: Springer.
- Sirgy, M. J., Lee, D.-J., Larsen, V., & Wright, N. (1998). Satisfaction with material possessions and general well-being: The role of materialism. *Journal of Consumer Satisfaction/Dissatisfaction and Complaint*, 11, 103–118.
- Sirgy, M. J., Gurel Atay, E., Webb, D., Cicic, M., Husic-Mehmedovic, M., Ekici, A., Herrmann, A., Hegazy, I., Lee, D.-J., & Johar, J. S. (2013). Is materialism all that bad? Effects on satisfaction with material life, life satisfaction, and economic motivation. *Social Indicators Research*, 110(1), 349–366.
- Veenhoven, R., & Hagerty, M. (2006). Rising happiness in nations 1946–2004: A reply to Easterlin. *Social Indicators Research*, 79(3), 421–436.
- Vohs, K. (2015). Money priming can change people's thoughts, feelings, motivations, and behaviors: An update on 10 years of experiments. *Journal of Experimental Psychology, General*, 144(4), e86–e93.
- Vohs, K., Mead, N., & Goode, M. (2006). The psychological consequences of money. *Science*, 314(5802), 1154–1156.
- Watson, J. J. (2003). The relationship of materialism to spending tendencies, saving, and debt. *Journal of Economic Psychology*, 24(6), 723–739.
- Weiß, B., Das, M., Kapteyn, A., Bosnjak, M., & Schaurer, I. (in press). Open probability-based panels. Wiley StatsRef: Statistics Reference Online.

- Winter-Ebmer, R. (1994). Motivation for migration and economic success. *Journal of Economic Psychology*, *15*(2), 269–284.
- Wright, N. D., & Larsen, V. (1993). Materialism and life satisfaction: A meta-analysis. *Journal of Consumer Satisfaction, Dissatisfaction, and Complaining Behavior*, *6*, 158–165.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Affiliations

M. Joseph Sirgy¹ · Grace B. Yu² · Dong-Jin Lee³ · Mohsen Joshanloo⁴ · Michael Bosnjak⁵ · Jinfeng Jiao⁶ · Ahmet Ekici⁷ · Eda Gurel Atay⁸ · Stephan Grzeskowiak⁹

Grace B. Yu
byungheeyu@duksung.ac.kr

Dong-Jin Lee
djlee81@yonsei.ac.kr

Mohsen Joshanloo
mjoshanloo@hotmail.com

Michael Bosnjak
mb@leibniz-psychology.org

Jinfeng Jiao
jinfengj@binghamton.edu

Ahmet Ekici
ekici@bilkent.edu.tr

Eda Gurel Atay
gureleda@hotmail.com

Stephan Grzeskowiak
research@grzeskowiak.ch

- ¹ Virginia Polytechnic Institute & State University, Blacksburg, USA
- ² Duksung Women's University, Seoul, South Korea
- ³ School of Business, Yonsei University, Seoul, South Korea
- ⁴ Keimyung University, Daegu, South Korea
- ⁵ ZPID - Leibniz Institute for Psychology Information, University of Trier, Trier, Germany
- ⁶ Binghamton University, Binghamton, USA
- ⁷ Bilkent University, Ankara, Turkey
- ⁸ University of Oregon, Eugene, USA
- ⁹ Rouen Business School, Mont-Saint-Aignan, France