



2012-12-07

Materialism and Psychological Well-being: A Meta-analytic Study

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Materialism and Psychological Well-Being: A Meta-Analytic Study

Kaylene J. Fellows

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements of the degree of
Master of Science

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December 2012

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ABSTRACT

Materialism and Psychological Well-Being: A Meta-Analytic Study

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The scholarly study of materialism is becoming more common in a variety of disciplines. This thesis provides an empirical review of this burgeoning body of literature by conducting a meta-analysis of the relationship between materialism and psychological well-being. A weighted overall effect size from 47 published and unpublished samples indicated that materialism was significantly related to lower psychological well-being. This effect size was modest in strength ($r = .159$). Materialism scale, psychological scale valance, age of sample, and publication status of the study did not moderate this relationship. Culture did moderate the relationship, with a stronger relationship in individualistic cultures than in collectivist cultures. Implications for individuals, professionals, and organizations are discussed, and critiques of the extant literature, as well as suggestions for future research, are offered.

Keywords: materialism, psychological well-being, meta-analysis

ACKNOWLEDGMENTS

As is true of all of the major accomplishments in my life, this thesis never would have been completed were it not for the support of many good people. I am indebted to my advisor and mentor, Jeffrey Hill, who has been so helpful, flexible, and generally amiable over the past few years. He has taught me much about how to be an effective scholar and a good person. He also invested many hours into improving this thesis, which I appreciate. I am also grateful to Alan Hawkins for teaching me the science (and art) of meta-analysis and for demonstrating confidence in my abilities. Many thanks go to Erin Holmes, who has always been kind, helpful, and generous with her time; and Jason Carroll, who has provided much insight and cause for reflection about the theoretical basis of this paper. Their feedback has provided depth and richness to this thesis while still respecting my ideas. In addition, I am also grateful to all of my committee members for always making me feel like my daughter was welcome. I am also blessed to be able to work with Hsin-Yao Cho (Lena), who spent many hours coding all of the articles out of the goodness of her heart. She truly is an amazing friend and I am very, very grateful for her service. It has been a privilege to study at Brigham Young University, and I am extremely grateful to those who have provided scholarships which made my education here possible, particularly the Sant family.

I am also thankful for the encouragement and confidence of my parents, and the hours of babysitting my mom provided so that I could complete my coursework and thesis. And finally, I would like to thank my husband, Steven, for all of the love, support, and perspective he has given me throughout my career as a graduate student. Without his hard work and patience over our three years of marriage, I doubt that I would have a finished thesis or a well-adjusted child.

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Materialism and Psychological Well-being: A Meta-analytic Study

“It is preoccupation with possessions, more than anything else, that prevents us from living freely and nobly.” –Henry David Thoreau

Throughout history, religious teachers and philosophers from nearly all societies and ages have eschewed greed and materialism. Great minds, from Socrates to Confucius, and from Jesus to Albert Einstein, have all warned about the unfulfilling nature of material goods. Yet, these messages are juxtaposed against contemporary media, which constantly barrage us with the message that if we want to be happy, we should buy the latest and greatest car, clothes, or gadgets. Some social science research seems to indicate that, on average, those with more money may report greater well-being (e.g., Lucas & Schimmack, 2009; Vittersø, Røysamb, & Diener, 2003). However, other researchers indicate that this relationship has been overstated and that it is not practically meaningful (e.g., Aknin, Norton, & Dunn, 2009; Diener, & Oishi, 2000). These issues are becoming increasingly more complex and important as both overall standard of living (Nye, 2007) and wealth disparity (Heathcote, Perri, & Violante, 2010) are growing world-wide.

Increasing concerns about money and materialism are reflected in the burgeoning body of research which examines the relationship between materialism and everything from low fertility rates (Li, Patel, Balliet, Tov, & Scollon, 2011) to racism (Roets, Van Hiel, & Cornelis, 2006). However, there has not been a systematic review of this literature in the last 20 years. The purpose of this thesis is to provide an empirical review of this research by conducting a meta-analysis on the relationship between materialism and psychological well-being.

Background

Theoretical Foundations

Materialism has been investigated by researchers from several different fields of study, including philosophy, psychology, political science, consumer behavior, and family sciences. As a result, there is not one agreed-upon conceptual framework that researchers use to examine materialism. In fact, research on materialism at this stage can be thought of in terms of a theoretical dichotomy—researchers disagree about whether materialism is a personality trait or a value.

The majority of modern materialism research is built on the work of two consumer behavior researchers in the 1980s—Russell W. Belk and Marsha L. Richins. Both had distinct approaches to materialism, and both created scales that typify these approaches. These scales are still used in the majority of materialism research today.

The first of these researchers, Belk (1984), defined materialism in a simple manner: “The importance a consumer attaches to worldly possessions” (p. 265). The main thing that differentiates Belk’s view of materialism from that of later researchers is the belief that materialism is a personality trait. His materialism scale was composed of three character traits—possessiveness, non-generosity, and envy. These three subcomponents were also reflected as the three subscales in his measure. Possessiveness is the desire to have and maintain ownership over tangible things. Sample items include, “I worry about people taking my possessions,” and “I tend to hang on to things I should probably throw out.” Non-generosity is the aversion to sharing with others (for example, “I enjoy sharing what I have,” reverse coded). Envy is the resentment toward those who have what you want. Some of the envy questions include, “I am bothered when I see people who buy whatever they want,” and “People who are very wealthy often feel

they are too good to talk to average people.” Belk’s scale is presented as either three separate scales, or as one combined scale.

In contrast to Belk’s conceptualization of materialism, Richins and colleague Dawson (1992) saw materialism as a personal value, or a fundamental belief about what is important, rather than as a personality trait. Therefore, Richins (1994) defined materialism as placing importance on having material things. Although their definition of materialism sounds similar to Belk’s, Richins and Dawson (1990) suggest that materialism is different than a personality trait because it is rooted in societal conditions and may change with age. The authors also note that materialism fits other criteria of values (Schwartz & Bilsky, 1987) in that it guides actions, evaluations, and behaviors, and remains consistent across a range of situations. Also inherent in the idea of materialism as a value is the notion that materialists value possessions or wealth at the expense of other things. This is part of the reason that materialism is suspected to be associated with reduced well-being—because materialistic people value material things more than other things which actually do produce happiness, such as positive interactions with others, health, etc. Richins and Dawson also assert that this value leads to distinct patterns of behavior which set materialists apart from less materialistic individuals. These behaviors are less likely to lead to happiness, helping to explain the theoretical link between materialism and reduced psychological well-being.

Richins and Dawson’s materialism scale is also divided into three components, but they represent different dimensions than those introduced by Belk. The dimensions are acquisition centrality, acquisition as the pursuit of happiness, and possession-defined success. Acquisition centrality is the belief that possessions play a central role in life. An example item is “The things I own aren’t all that important to me,” reverse coded. Acquisition as the pursuit of happiness is

the idea that owning things makes one happier. “My life would be better if I owned certain things I don’t have,” is one example item. Possession-defined success is the belief that you can determine someone’s success by the things that they own. Items include, “I admire people who own expensive homes, cars, and clothes,” and “Some of the most important achievements in life include acquiring material possessions.”

There is one variant of Richins’ personal value materialism that should be mentioned. Some scholars view materialism not as a separate phenomenon, but within a larger value system. They employ the Aspirations Index (Kasser & Ryan, 1996), which asks subjects to rate the importance of 35 life goals, including finances. These goals are divided into intrinsic vs. extrinsic values (materialism is considered extrinsic), with the idea that extrinsic values and goals are not as beneficial for mental health.

Empirical Foundations

Although the relationships between money, possessions, and psychological well-being are complicated (Diener & Seligman, 2004), research over the past few decades indicates that there is a link between materialistic values and a host of problematic outcomes including more negative and less positive affect (Christopher, Saliba, & Deadmarsh, 2009; Christopher & Schlenke, 2004; Kashdan & Breen, 2007), more depressive symptoms and anxiety (Kasser & Ahuvia, 2002; Smith, 2011), and lower self-esteem (Park & John, 2011; Richins & Dawson, 1992). Overall, respondents higher in materialism tend to report less satisfaction with their lives (Belk, 1984; Christopher & Schlenke, 2004; Froh, Emmons, Card, Bono, & Wilson, 2011; Keng, Jung, Jiuan, & Wirtz, 2000; Richins & Dawson, 1992; Ryan & Dziuraviec, 2001; Swinyard, Kau, & Phua, 2001).

Additionally, a recent article examined the association between materialism and well-being while controlling for a variety of other factors thought to contribute to well-being, and found the relationship to persist (Wasser, 2011). In fact, Roberts and Clement (2007) found that materialistic orientation was significantly and negatively correlated with satisfaction in eight different domains of life: overall, friends, oneself, residence, health, amount of fun and enjoyment, money, and job. Materialism is also associated with a number of other negative characteristics such as a more external locus of control (Christopher et al., 2009), more fear of negative evaluation, (Christopher et al., 2009), lower emotional intelligence (Engelberg & Sjöberg, 2006), less gratitude (Kashdan & Breen, 2007; Kasser, 2005), more envy (Belk, 1984; Froh et al., 2011), less vitality (Kasser & Ahuvia, 2002; Kasser & Ryan, 1993), more racism (Roets et al., 2006), and a lower degree of self-actualization (Kasser & Ahuvia, 2002). Studies with adolescents tend to replicate these problems, and also note that materialistic youth tend to do worse in school (Froh et al., 2011; Goldberg, Gorn, Peracchio, & Bamossy, 2003) and have more behavior problems (Dawson, 2011; Flouri, 2004; Kasser & Ryan, 1993). Despite the fact that current research suggests that materialism and psychological well-being are linked, some studies (e.g., Goldberg et al., 2003; Nickerson, Schwarz, Diener, & Kahneman, 2003; Powell, 2010) have found no direct association.

Whether or not the association between materialism and psychological well-being is a phenomena found regardless of culture has also been a topic of research. Some researchers has questioned whether materialism is just harmful in cultures where it is viewed as a vice (see Kasser & Ahuvia, 2002) because of societal pressures or shame regarding materialism. There does seem evidence that materialism is universally detrimental, even in countries such as Singapore where materialism is not necessarily seen as a negative trait (Kasser & Ahuvia, 2002;

Swinyard et al., 2001). Qualitative research also seemed to indicate that materialism was a trait found in all different cultures examined (Ger & Belk, 1996; Ger & Belk, 1999), despite differing justifications for the pursuit of materialism goods (Ger & Belk, 1999).

In addition to being associated with a number of negative individual outcomes, research indicates that individuals with materialistic orientations tend to have lower quality relationships. They report being less satisfied with their friends (Keng et al., 2000; Richins & Dawson, 1992) and family (Nickerson et al. 2003; Roberts & Clement, 2007; Ryan & Dziuraviec, 2001). Some studies report that those with materialistic orientation are significantly less likely to be satisfied with their marriage or romantic relationship (Carroll, Dean, Call, & Busby, 2011; Dean et al., 2007; Keng, Jung, Jiuana & Wirtz, 2000),

In addition to the internalizing problems mentioned above, materialistic individuals also tend to more frequently struggle with externalizing problems. These problems include higher levels of substance use (e.g., Vansteenkiste, Duriez, Simons, & Soenens, 2006), antisocial behavior, and excessive online video game usage (Chang & Zhang, 2008). Flouri (2004) found that high school students who were materialistic also reported more behavior problems.

Other externalizing problems that materialistic individuals struggle with are money-related—materialistic individuals appear to use their financial resources in different, more destructive ways than do less materialistic individuals. They amass higher levels of debt and do not save as much (Goldberg et al., 2003; Watson, 2003). They are inclined toward compulsive buying (Garðarsdóttir & Dittmar, 2012; Yurchisin & Johnson, 2004), and are less likely to spend money on others or to donate to charities (Richins & Dawson, 1992).

Finally, materialistic people also tend to struggle in the work domain. They tend to be less satisfied with both their jobs and their careers (Deckop, Jurkiewicz, & Giacalone, 2010).

Materialism also appears to be associated with a diminished ability to manage the demands of work and family/leisure time (Engelberg & Sjöberg, 2006; Promislo, & Deckop, Giacalone, & Jurkiewicz, 2010).

Although there appears to be a link between materialism and negative outcomes, the question of whether materialism is the cause or effect of psychological maladjustment (or whether it is merely a spurious correlation) still remains. A few recent studies have tried to tease out these relationships (using experimental and longitudinal variables) with interesting results. For example, Kasser and Sheldon (2000) attempted to test the idea that materialism is an outgrowth of insecurity by artificially causing insecurity in a laboratory setting. The authors randomly assigned two conditions: the treatment group wrote a short essay about death—with the idea that this would lead to heightened insecurity—and the control group wrote about a neutral topic. After the condition, members of the treatment group were more likely to plan to spend money for their own pleasure. Chang and Arkin (2002) reported similar results with both personal and societal insecurity. These studies appear to indicate that insecurity does lead to heightened materialism and can help explain phenomena such as looting during natural disasters. Longitudinal studies, however, lend support for the idea that materialism leads to poorer outcomes. Nickerson, Schwarz, Diener, and Kahneman (2003) found that materialism was predictive of later lower well-being. Using a cross-lag panel design, Miller (2009) found that the relationships between materialism and psychological maladjustment were bi-directional, but noted that “somewhat more support existed for materialism as antecedent to rather than consequent of [psychological maladjustment]” (p. v). These studies indicate that although materialism may partially be a result of preexisting psychological maladjustment, it also contributes to future problems.

The Present Study

The Need for a Meta-analysis

The body of literature on materialism is burgeoning, with scores of articles on the topic written in the last two years alone. Despite this interest in the topic, there have been no recent efforts to summarize or review (empirically or conceptually) the extant research. This meta-analysis is an attempt to aggregate all of the research on materialism and psychological well-being empirically.

The majority of research that exists indicates that there is a relationship between materialism and psychological well-being. However, there are still questions about these relationships. First, research up to this point does not unanimously agree that there are meaningful relationships. Some studies (e.g., Christopher, Lasane, Troisi, & Park, 2009; La Barbera & Gurhan, 1997; Swinyard, Kau, & Phua, 2001) have found non-significant relationships between the variables, raising the question of whether or not the materialism and psychological well-being variables are related at all. Additionally, the extant literature has produced varied results in terms of the strength of the correlation between materialism and psychological well-being. Some studies report correlations as low as $r = .00$ (Christopher, Lasane, Troisi, & Park, 2009) and as high as $r = .48$ (Roberts & Clement, 2007). Such variation makes it difficult to gauge how strong the association between materialism and psychological well-being really is and whether or not it poses a serious problem at all. It also begs the question, “Why does the correlation between these variables vary so much from sample to sample?”

The most effective way to address these questions is through a meta-analysis. Meta-analysis is a technique by which effect sizes from all of the studies in a given area are aggregated into an overall effect size (Lispey & Wilson, 2001) with each individual effect size being

weighted by the sample size of the study (with the idea that there is less measurement error in studies with larger sample sizes). In this instance, the weighted average of the correlation between materialism and psychological well-being was used. In addition, it is possible to explore moderators in conjunction with a meta-analysis. These analyses can help explain why the correlation between materialism and psychological well-being is so high in some samples and not in others.

Thus, a meta-analysis can address inconsistencies in the field and help further our understanding of materialism. At present, there is only one meta-analysis that considers materialism, conducted by Wright and Larsen (1993). They found that the overall effect size between materialism and well-being was $r = -.25$. However, this study is nearly 20 years old and only contains information from seven studies. Because the literature on materialism is growing quickly, a meta-analysis from two decades ago cannot no longer accurately depict the field as a whole. I believe this study will add significantly to the growing body of literature connecting materialism with measures of psychological well-being.

Moderators

There are four characteristics that I theorize might explain the variation in effect sizes in current samples.

Materialism scale. Different scales used to measure materialism may produce different overall correlations, since scales may actually be measuring different facets of materialism. This question of measurement is particularly important in the field of materialism, as the two dominant scales used to measure materialism have different theoretical backgrounds (personality trait vs. personal values), so the scales may actually measure two different (but correlated) things. It is important to determine if these scales actually produce results that are consistent and

generalizable with each other. The three scales which will be compared are the Belk (1984) measure, the Richins and Dawson's (1992) Materialistic Value Scale, and Kasser and Ryan's (1996) Aspirations Index.

The Richins & Dawson (1992) scale is comprised of 18 items and has been demonstrated to be psychometrically sound. Each subscale was shown to have reliabilities above $\alpha = .70$ in three different samples. When combined to a single materialism scale, the reliabilities ranged between .80 and .88 for the three samples. Each of the subscales had factor loadings above .43. Additionally, test-retest reliability was calculated to be above .82 on all subscales and the combined scale after a 3-week period. Later, Richins introduced a 15-item version of this scale (Richins, 2004), which actually outperformed the longer version in terms of reliability.

The Belk scale is comprised of 24 Likert-scale questions. Unlike the Richins and Dawson scale, Belk's measure did not consistently produce good reliability for the scale as a whole. In a sample of 338, $\alpha = .57, .58,$ and $.64$ for possessiveness, nongenerosity, and envy, respectively. Test-retest reliability was somewhat better, $\alpha = .87, .64,$ and $.70$ for possessiveness, nongenerosity, and envy after a two-week period.

As is often the case, there were also several studies which employed a combination of scales, or used single-item or unpublished scales. Because of the difficulty in combining the scales appropriately, they also will be not included in this moderator analysis.

Age. There is some evidence that materialism levels vary by age (Chaplin & John, 2007). A question of age may be particularly important when considering adolescent or emerging adult populations, as materialism may be particularly difficult for adolescents, who have been shown to have a tendency to feel self-conscious and compare themselves to others (Steinberg, 2007). If adolescents believe that they look bad because they do not have the things

that their peers do, it may have a more negative effect on their well-being than if an adult were in the same situation. Adolescents are also less likely to consider long-term effects when making decisions (Steinberg), so materialistic youths may be more likely to fall into the more short-term benefits of extrinsic rewards of compulsive buying, which can further undermine their psychological well-being. Similar, if attenuated, results may be seen among emerging adults. A moderator analysis will tell us if younger populations are particularly at risk when it comes to materialism.

Culture. Researchers have suggested that materialism might vary based on culture (Ger & Belk, 1996; Ger & Belk, 1999; Kasser & Ahuvia, 2002). We examine culture in terms of Hofstede's (2010) individualistic vs. collectivist distinction. Because motivations for success are inherently different in these cultures, it stands to reason that materialism might have different meaning and therefore effects based on culture as well. In collectivist cultures, the emphasis is on providing value for the collective group, so focus on material goods might actually be a reflection of a healthy desire to provide for one's family. Thus, I hypothesize that materialism may not be as strongly related to negative well-being in collectivist cultures.

Publication type. Publication bias—when a published body of literature is not representative of all unpublished research in a given area (Sutton, 2009)—is constant concern within the world of science. Because it is typically more interesting and easier to publish results that are significant, there are sometimes non-significant “file drawer” studies that remain unpublished, which can inflate the real association. As a way to test this, I included both published and unpublished studies in this meta-analysis to see if publication status moderates the relationship between materialism and psychological well-being, with published studies reporting stronger effect sizes.

Hypotheses

Given the abundance of research which suggests that materialism is linked with negative individual outcomes, and the lack of synthesis in this area, the purpose of my thesis is to attempt to further the body of research by examining the following research questions:

H1. Measures of materialism and psychological well-being will be significantly and negatively related.

H2. This strength of the negative relationship of materialism and psychological well-being will be moderated by age (relationship stronger for younger people), culture (relationship stronger in individualistic cultures), and publication type (relationship stronger in published studies).

Additionally, I plan to examine one research question. Because there is not any literature that directly examines this question, this as an exploratory question, rather than a direct hypothesis.

R1. How does measurement influence this association? Does one concept of materialism (personality vs. value) produce higher associations than the other?

Methods

Literature Search

In order to identify appropriate studies for our sample, I began by searching electronic databases including PsycINFO, Business Source Premier, ProQuest, and Google Scholar. Search terms included *materialism*, *materialistic*, *values*, *values orientation*, and *greed*. In addition, I contacted some prominent scholars via email to see if they had any samples for which they had the correlation between well-being and materialism that were not yet published. I also manually searched the reference lists of some recent relevant articles and the Wright and Larsen meta-

analysis to ensure that the search was as complete as possible. All of the data described in this study from a literature search that concluded in September of 2012.

Inclusion Criteria

The initial search procedure resulted in 79 studies identified for further evaluation. From this pool of 79, I narrowed the selection down to include only the articles that met the following criteria:

First, only articles with quantitative methods in unique samples were included. Reviews of literature, critiques, meta-analyses, and qualitative studies were not included in our sample. Of the initial 79 articles identified, two were excluded because they did not meet this criterion. Publication was not an inclusion criterion—scholarly journal articles, book chapters, dissertations and theses, and unpublished samples were all included. When a sample was published in more than one article, we only included it once. This reduced our sample size by two as well.

Second, we only included studies that had both of the variables of interest (materialism and well-being/psychological adjustment). For materialism, we included materialism, subscales of materialism, money importance, importance of finances, and greed. When studies differentiated between instrumental and terminal materialism (Instrumental materialism being the pursuit of money for its functionality and necessity, with terminal materialism being wanting things just for the sake of having them), we only included measures of terminal materialism as this seemed to fit with other definitions of materialism. Instrumental materialism is valuing money for its functionality and recognizing its necessity, whereas terminal materialism is wanting things just for the sake of things. When a study only included “intrinsic vs. extrinsic value” status, not materialism specifically, it was not included since this measures something

much broader than materialism alone. We eliminated two of the 79 articles because they did not have an appropriate materialism measure.

For the psychological well-being variable, we included variables that assessed a respondent's overall mental health. These variables included satisfaction with life, subjective well-being, positive affect, vitality, meaning in life, psychosocial well-being, self-esteem, self-acceptance, and self-actualization. We also included depression, anxiety, stress, negative affect, and personal insecurity, which were reverse coded so that it matched the direction of subjective well-being (with higher numbers indicating a more mental health). We did not include prosocial behavior, callous-unemotional traits, work-related personal well-being, emotional intelligence, or marital satisfaction. These were not included because they reflected well-being in one specific domain rather than for life as a whole, or because demonstrated a skill set or behavior rather than a level of well-being. Additionally, we excluded any studies that reported on happiness as a reaction to or as a result of a specific incident (i.e., when induced as part of an experiment). Twelve of the 79 articles were eliminated for this reason.

There were also some studies which were excluded because they were not available (e.g., they were old unpublished manuscripts which could not be located, etc.). Two articles were excluded for this reason.

Finally, the study had to include an effect size statistic between these two variables. (Further discussion of what constitutes an appropriate effect size is below). Of the 79 articles initially identified, 14 articles had the appropriate variables, but were not included because they did not include statistics appropriate for calculating effect sizes for meta-analysis.

Study Characteristics

The inclusion process for this study yielded a total of 47 independent samples from 45 articles. This was possible because some studies reported more than one sample (e.g., samples from different geographic regions). Studies included in our sample had individual samples ranging from 71 to 12,894 participants. These articles were published between 1984 and 2012, with 83% of them being published after 2000. Forty of the samples came from published sources. Seventy-two percent of the samples were from the United States, with others from Singapore, Britain, Turkey, Hungary, Belgium, and Australia. The majority of samples were mixed men and women, but there were four samples that were exclusively women and two that were exclusively men.

Data Coding

Each article was independently coded by me and one other researcher who had been previously trained in meta-analysis. After each article was coded independently, results were compared. When there was a discrepancy between coders, the coders met, reviewed the article, and reached an agreement. Because we reached 100% agreement, it was not necessary to compute inter-rater reliability. We coded two main types of information from each study: effect size data and moderator information.

Effect size information. To compute an overall effect size in a correlational meta-analysis, the correlation (r) and sample size (n) for each individual sample is required (Lipsey & Wilson, 2001). Thus, this is what we coded where possible, reversing the direction where necessary to ensure consistency. Reverse coding was only used for depression, negative affect, or anxiety/stress, or when well-being variables were reported such that a lower score indicated higher well-being.

Unfortunately, there were some studies which looked at the variables of interest, but did not report the correlation. When this was the case, we employed one of two methods of rehabilitation. First, if the author(s) did present a standardized regression (beta) coefficient, we used the method of rehabilitation developed by Peterson and Brown (2005): $r = \beta + 0.05\lambda$, where $\lambda = 1$ when β is positive and $\lambda = 0$ when β is negative; β must be between +0.50 and -0.50. Peterson and Brown (2005) found that this method of rehabilitation was preferable to excluding the studies which only report beta coefficients as it reduces sampling error, which is perhaps the most significant flaw with meta-analysis. I used this method of rehabilitation for six studies. In order to ensure that this method of rehabilitation was acceptable, I ran a test to ensure that there were not differences based on rehabilitation status. The test showed that rehabilitated studies had slightly lower effect sizes, $Q = 7.85, p < .02$, but I decided to proceed with including these studies because the difference was numerically small ($r = -.17$ vs. $r = .10$), and because a slightly more conservative overall effect size seemed like a better alternative than bias due to sampling error. It is also important to include these studies because they represent the correlation between the variables of interest when other variables are taken into account, which might actually be close to reality. Second, I contacted authors to ask for correlation information if the article of interest was published in the last ten years. This was used effectively in two instances.

Moderator information. In addition to effect size information, we also coded information about the article to be used in moderator analyses. This is how the moderators were coded:

Materialism scale. We coded materialism scales into categories for each of the three most commonly used materialism scales—Richins & Dawson (1992), Belk (1984), or the Aspirations Index (Kasser & Ryan, 1996).

Age of sample. Age was roughly categorized into children/adolescents, college students, and adults. Four of the samples drew from mixed populations; i.e., they included college students and adults. These samples were excluded from this moderator analysis.

Culture of sample. Samples were divided into collectivist vs. individualistic cultures. Based on the research of Hofstede (2001), samples from China, Singapore, and Turkey were classified as collectivist, whereas the remainder of the samples (from countries such as the US, the UK, Australia, etc.) were coded as individualistic.

Publication type. Publication type was divided into two categories: published article (including journal articles and book chapters) and unpublished (including dissertations/theses, unpublished datasets and unpublished conference presentations).

Meta-analysis Strategy

The meta-analysis was conducted utilizing the procedures detailed by Lipsey and Wilson (2001). Using Comprehensive Meta-Analysis (CMA) software version 2.0, an overall effect size (r) was calculated and using the correlations weighted by sample size. A random effect model was employed, because the effects of the study would vary on more than sampling error. A random effects model also does not vary as much based on sample size. Because some of the popular materialism scales (Belk, 1984 and Richins & Dawson, 1992) are comprised of sub-dimensions, some of the studies included in this meta-analysis reported their zero-order correlations with each separate subscale, rather than with one global materialism construct. Where this is the case, the weighted average of these subscales will be used.

Results

Materialism and Psychological Well-being

Hypothesis 1 was supported. Analyses indicated that there was a significant, modest, negative relationship between materialism and psychological well-being ($r = -0.159, p < 0.001, k = 47$). When individuals reported more materialism, they tended report lower psychological well-being.

There was one study which had a very large sample size ($n = 12,894$). Because meta-analysis essentially uses sample size as the criterion for weighting, I was concerned that this study might dominate the overall effect size. In order to check to see if this was happening, I ran the meta-analysis without the study, and the overall effect was $r = -0.17, p < 0.001$. Because the effect size with the study was so close to the effect size without it, I decided to include the study in the remainder of the analyses.

There was a large amount of variability in the overall distribution of correlations, $Q = 261.167, p < .001$. This is noteworthy, as it indicates that moderators might be useful in explaining some of this heterogeneity.

Moderators

Materialism scale. Moderator analyses indicated that the Aspiration Index had an effect size of $r = -.146, p < .001, k = 4$; the Belk scale had an effect size of $r = -.21, p < .001, k = 4$; and the Richins & Dawson scale had an effect size of $r = -.18, p < .001, k = 29$. Overall, there was no difference between these effect sizes, $Q = 2.13, p = .35$. It should be noted that the number of studies utilizing the Belk scale and the Aspirations Index was small, so this finding should be interpreted with caution. These results are related to Research Question 1.

Age of sample. There were no significant effect size differences based on age, $Q = .46, p = .76$. The effect sizes for age groups were $r = -.15, p < .001, k = 7$ for adolescents and children; $r = -.18, p < .001, k = 16$, and $r = -.17, p < .001, k = 20$ for adults over the age of 18. This part of Hypothesis 3 was not supported.

Culture of sample. In harmony with Hypothesis 2, moderator analyses indicated that the relationship between materialism and psychological well-being was significantly weaker for samples from collectivist cultures ($r = -.08, p = .001, k = 4$) than it was for individualistic samples ($r = -.17, p < .001, k = 42$), $Q = 9.91, p = .002$. This result should be interpreted with caution, as there were only four samples from collectivist cultures.

Publication type. Published studies had an overall effect size of $r = -.17, p < .005, k = 40$, whereas unpublished studies had an overall effect size of $r = -.14, p = .005, k = 7$. This was not a significant difference, $Q = .43, p = .51$. This part of Hypothesis 2 was not supported.

Discussion

Materialism has been condemned by philosophers and religious leaders for centuries. In direct contrast to this, today's consumer culture repeatedly bombards us with the message that, "If we just buy this [car, house, pair of shoes, etc.], then we will be happy." Putting these notions to the test, I ran a meta-analysis of 47 studies reporting effect size information on more than 39,000 individuals. This meta-analysis yielded a significant negative relationship between materialism and psychological well-being. However, it should be noted that although I did find a significant association between these two variables, the size of the relationship was modest. Our overall effect size was $r = -0.159, p < 0.001$. The r-squared for this effect size is $r^2 = .025$. This means that only 2.5% of the variance in psychological well-being is accounted for by

materialism. This is significantly lower than some of the most frequently cited estimates of the effects of materialism on happiness.

Despite the modest size of this association, this relationship does appear to be somewhat robust. Most of the studies included in our meta-analysis reported significant relationship in their individual samples. Furthermore, every subgroup which I ran in our moderator analyses indicated a significant relationship between materialism and psychological well-being.

I found that few of the moderators which I tested were significant. Specifically, the strength of the relationship between well-being and materialism did not vary based on the materialism measure used, the age of the sample, or the publication type. Assuming that this lack of significance is a real indication of homogeneity, rather than a reflection of a small k , this finding seems to denote generalizability of the extant work on materialism across measures and samples, which is a good thing. However, I did find a large amount of statistical heterogeneity in our study. That is, individual studies varied widely in the sample effect sizes that they reported. This seems to indicate that there are other factors that influence the strength of this relationship which are not the factors typically studied in the materialism literature, and were therefore not included in this study.

There has been some debate on which materialism scale should be used by materialism researchers. This study does not examine on the validity or reliability of these scales, but since I found no significant difference between these scales in terms of their relationships with psychological well-being, it seems that these scales yield similar results (despite their different theoretical foundations). The majority of studies that I looked at employed the Richins and Dawson scale.

I did find that this relationship was not as strong for samples from collectivist cultures. This finding should be interpreted cautiously, as I only had four samples from collectivist cultures. There is a possibility that this finding might not have been significant had there been a larger pool of studies to include in this moderator analysis. However, the idea that material things have different meaning in collectivist cultures is worth exploring, as it is possible that valuing different things is not as adverse to well-being if the paramount concern is not one's own individual well-being (which is the case in collectivist cultures). Other researchers have suggested that perhaps materialism is not as detrimental in Eastern cultures, where it is not viewed as a shameful trait (see Kasser & Ahuvia, 2002). Further research that explores and elaborates on these ideas would be beneficial.

Implications

This study has found a significant, albeit modest, association between materialism and poorer psychological well-being. Although there is no way to determine to determine causality in a correlational meta-analysis, theory and the few longitudinal studies that are available indicate that materialism may result in lower psychological well-being. This leads to several implications for individuals, therapists/educators, and organizations.

Implications for individuals. Individuals should recognize that the reverse of material goods is not beneficial to individual psychological well-being. Thought processes such as believing that material goods are an indication of life success, believing that material things will make one happy, and envying the things that other people appear to be detrimental and should be appraised as such. In addition, focusing on material goods can detract from other activities and pursuits that actually do bring happiness, such as positive relationships with others, learning, maintain good physical health, etc. Finally, materialistic values appear to lead to materialistic

behaviors such as compulsive buying, consumer debt, and retail therapy. This is yet another mechanism by which materialism can result in unhappiness.

It is probably wise for individuals who struggle with materialism to make efforts to remove themselves from materialistic environments. Examples of this include unsubscribing from daily deals emails, cancelling subscriptions to fashion or celebrity magazines, and/or limiting the amount of time spent watching television programs on “dream homes.” Hobbies like shopping or reading blogs about the latest electronics can be replaced with more productive activities. Similarly, although there is little (if any) research which examines how materialism functions in groups, it may be wise to reduce interaction with acquaintances and associates who are also materialistic, where possible.

An understanding of the potential ill effects of materialism is particularly important for parents. Parents have been found to be a major influence on an adolescent’s materialism levels (Chaplin & John, 2010; Gu, Hung, & Tse, 2005; Rindfleish, Burroughs, & Denton, 1997). Parents should be aware of the impact that they can have on their adolescent’s materialism, and that adolescent materialism is related to negative outcomes. Parents can discuss the negative aspects of materialism with their children. Parents can ensure that positive reinforcement does not just take place in the form of material rewards. Also, limiting exposure to the media, particularly to advertisements, may presumably help to diminish adolescent materialism, since the two have been consistently linked (Oprea, Buijzen, & Valkenburg, 2012; Sirgy, Gurel-Atay, Webb, Cicic, Husic, Ekici, et al., in press). All in all, more research is needed on the mechanism by which materialism is transmitted generationally.

Implications for therapists and educators. Therapists and educators should also recognize the potential deleterious effect that materialistic attitudes/values can have on

individual psychological well-being. For therapists, this could begin during the process of diagnosis by including questions about materialistic tendencies. From there, therapists and educators can help clients to recognize the value that they place on material things and how this tendency can undermine individual happiness and negatively affect individual well-being and family life. Professionals can also help clients understand alternative sources of satisfaction, such as positive relationships with family, increasing self-efficacy and self-esteem, and reducing personal value assessments via comparisons with others. Other studies have revealed that gratitude and giving is linked with lowered materialism (Froh, Emmons, Card, Bono, & Wilson, 2011; Lambert, Fincham, Stillman, & Dean, 2009), so efforts can be made to cultivate this trait in clients that struggle with materialism.

Implications for business organizations. Businesses today often use salary and other personal compensation as their primary incentive to attract and retain talent. This practice may inadvertently encourage materialism and partially undermine the well-being of employees. Psychological well-being of employees should be important. Satisfied and happy employees boost productivity, which leads to increased profitability. As a result, alternative (i.e., not material or wealth-focused) mechanisms to motivate and inspire employees should be considered. Companies can consider focusing on meeting employee needs that are higher on Maslow's (1943) hierarchy of needs. This can be done by framing positions in their company as opportunities to exert creativity and achieve self-actualization. This would surely be implemented most effectively when companies have a "giving back" culture in which a desire to provide value for customers and improve the world transcends profitability.

Literature To-date

Given all of the theorizing on the negative effect of materialism, as well as all the focus on this topic from philosophers and leaders throughout recorded history, it is surprising to find such a modest relationship between materialism and psychological well-being. This may be a reflection of the inability to capture the nuances of the relationship between materialism and psychological well-being due to gaps in the current literature. Gathering all of the studies for this meta-analysis has been instructive as to the state of the materialism literature. As a result, I have identified several gaps in the literature which I hope to see addressed in future materialism research.

Sampling problems. Although materialism as a topic of study is rapidly increasing in popularity, current sampling practices present a significant roadblock to the generalizability of research on materialism. The majority of studies on materialism utilize convenience samples that are not likely representative of populations. In fact, nearly a third of the studies included in this meta-analysis are based on convenience samples of college students. Race is rarely mentioned, which means that minority populations are most likely under-represented in these studies. All but a handful of studies included in this meta-analysis reported on samples of mixed gender, with no extensive comparisons on how materialism might function differently in men and women (or in boys and girls). I also found little discussion on how gender might This means that we know something about certain segments of the population, but very little about the population as a whole in terms of materialism.

In a similar vein, very little is known about materialism in childhood and early adolescence. Only one of the studies included in this meta-analysis surveyed children under the age of 12. Although children are more difficult to study, they comprise an important population,

as there could be a sensitive period for developing (or not developing) materialistic values. It might also be easier to intervene at a younger age, before materialistic values are engrained and difficult to change, and/or before life decisions (such as career choice) are based around consumer-oriented values.

Furthermore, there is very little research that explores if materialism functions differently across different groups. Is materialism equally prevalent across genders, ethnicities, income levels, ages, generations, occupations, etc.? And materialism have the same effect on psychological well-being in all of these groups? These questions remain, in essence, unanswered, which seriously limits our understanding of this phenomena. Furthermore, theorizing on how materialism might function in different groups seems to be non-existent.

Study design. In addition to the sampling issues mentioned above, the majority of materialism studies to date have been based on cross-sectional correlational data. Although this type of research provides an important framework for further research, much more longitudinal and experimental research is needed. Of the 47 samples that we included in our work, only three were longitudinal, which is definitely inadequate. These more specific study types are essential for understanding the origins and effects of materialism. In fact, the modest correlation between materialism and psychological well-being may be because materialism has an ongoing corrosive that slowly erodes psychological well-being. Yet, because of the lack of longitudinal work, the currently body of research is really unable to detect such an effect. It would also be interesting to consider how exposure to the most recent technological developments (e.g., Pinterest, fashion and home decor blogs, technology blogs, etc.) might influence materialism.

Also significantly, there seems to be a lack of discussion on how materialism can be dealt with or diminished. Virtually no articles could be found that present or assess programs or

curriculum designed to help individuals that struggle with materialism and the difficulties associated with materialistic tendencies.

An additional limitation of the body of literature on materialism up to this point is the focus on the individual. Nearly all of the studies that are out there are based on self-report data, which gives an unfortunately limited perspective on materialism. There are at least two major problems with this. First, individuals may not be able to accurately detect their own level of materialism and/or psychological well-being or might not be honest on a questionnaire. This may be particularly true for scales that have participants rank how much they value material goods in a list of values. It would not be surprising if some individuals really believe that they are valuing things like family or healthy relationships (and mark this on a survey as a consequence), but make decisions that actually indicate a different value preference. For example, a wife might spend a Saturday afternoon doing unnecessary shopping for her husband (telling herself that she is doing something nice for him), rather than spending the time doing something that might be more beneficial for him, like spending time together. Second, the effect of materialism may not be limited to the individual. That is, an individual's materialism may have a negative effect on his/her spouse or his/her children in addition to the negative effect that it has on him or herself; it may also extend beyond the individual or family realm to influence friends or coworkers or the organizations or communities that an individual is part of. Thus, simply noting the relationship between an individual's materialism and his or her own well-being may be underestimating the potential negative effect of this trait, and is certainly diminishing the richness of our understanding of materialism and the way it influences relationships. Much more research is needed that views materialism in a relational context.

Limitations

Although this meta-analysis fills an important gap in the literature by providing the first empirical review of the materialism literature in 30 years, it is not without limitations. These limitations should be noted.

First, there is a potential of sampling bias. I did all that was reasonable possible to gather all of the materialism/well-being effect sizes that were available, but it is still possible that there are studies out there which have this correlation which I was unable to find. This is probably particularly likely in the case of unpublished studies, as well as in the case of published studies in which zero-order correlation and/or betas were not included. Although I took specific steps to avoid this (e.g., contacting leaders in the field for file-drawer publications, and contacting authors of recently published studies for correlation tables when they were not available in text), there were still some instances in which this data could not be obtained. As a result, there is a possibility of sampling bias.

Second, the number of samples included in this meta-analysis was 47. This rather modest k should be considered when interpreting results. This is particularly true of some of the moderator analyses, where subgroups were sometimes quite small. Although this is a limitation, being able to include 47 samples in one empirical study that compiles data from more than 39,000 participants certainly adds depth to our knowledge of materialism.

Finally, because the sample was procured from previously published studies, this study is subject to some of the limitations of those individual studies. As was previously mentioned, many of these studies are based on convenience and non-nationally represented samples. Thus, this study is also a reflection of the relationship between materialism and well-being in the specific subset of the population typically represented in these samples.

Conclusion

In order to provide a review of the growing body of literature on materialism, a meta-analysis was conducted on whether there was a relationship between materialism and psychological well-being, a common question in research in the last 30 years. In a meta-analysis of effect sizes from more than 45 samples, I found a significant, negative relationship between materialism and well-being. Although this study does not address the question as to whether or not money can buy happiness, it appears that valuing money (and material goods) is a consistent way to diminish happiness. Although the magnitude of the relationship between materialism and psychological well-being is small, it is still a problem that is worth attention. It stands to reason that this will become an increasingly pervasive problem as the technology makes it easier for individuals to see what they could have, “if only.”

The study of materialism is gaining momentum, but careful thought needs to be implemented in order to make the best use of resources in order to further our understanding of materialism. This can be accomplished by improving sampling techniques, including more longitudinal and experimental studies, and by focusing on materialism in a relational context.

References

Note: Articles with an asterisk are those included in the meta-analysis.

- *Ahuvia, A., & Wong, N. (1995). Materialism: Origins and implications for personal well-being. In F. Hansen (Ed.), *European advances in consumer research* (Vol. 2, pp. 172-178). Provo, UT: Association for Consumer Research.
- Aknin, L. B., Norton, M. I., & Dunn, E. W. (2009). From wealth to well-being? Money matters, but less than people think. *The Journal of Positive Psychology, 4*, 523-527. doi: 10.1080/17439760903271421
- *Belk, R. W. (1984). Three scales to measure constructs related to materialism: Reliability, validity, and relationships to other measures of happiness. In T. Kinnear (Ed.), *Advances in consumer research* (Vol. 11, pp. 291-297). Provo, UT: Association for Consumer Research.
- *Bottomley, P. A., Nairn, A., Kasser, T., Ferguson, Y. L., & Ormrod, J. (2010). Measuring childhood materialism: Refining and validating Schor's Consumer Involvement Scale. *Psychology and Marketing, 27*, 717-739. doi: 10.1002/mar.20353
- *Burroughs, J. E., & Rindfleish, A. (2002). Materialism and well-being: A conflicting values perspective. *Journal of Consumer Research, 29*, 348-370. doi:10.1086/344429
- Carroll, J. S., Dean, L. R., Call, L. L., & Busby, D. M. (2011). Materialism and marriage: Couple profiles of congruent and incongruent spouses. *Journal of Couple and Relationship Therapy, 10*, 287-308. doi:10.1080/15332691.2011.613306
- *Chang, L., & Arkin, R. M. (2002). Materialism as an attempt to cope with uncertainty. *Psychology and Marketing, 19*, 389-406. doi:10.1002/mar.10016

- Chang, J.-H., & Zhang, H. (2008). Analyzing online game players: From materialism and motivation to attitude. *Cyberpsychology & Behavior, 11*, 711-714.
doi:10.1089/cpb.2007.0147
- Chaplin, L. N., & John, D. R. (2007). Growing up in a material world: Age differences in materialism in children and adolescents. *Journal of Consumer Research, 34*, 480-493.
doi:10.1086/518546
- Chaplin, L. N., & John, D. R. (2010). Interpersonal influences on adolescent materialism: A new look at the role of parents and peers. *Journal of Consumer Psychology, 20*, 480-493.
doi:10.1016/j.jcps.2010.02.002
- *Christopher, A. N., Lasane, T. P., Troisi, J. D., & Park, L. E. (2007). Materialism, defensive and assertive self-presentational tactics, and life satisfaction. *Journal of Social and Clinical Psychology, 26*, 1145–1162. doi:10.1521/jscp.2007.26.10.1145
- *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.
doi:10.1016/j.paid.2009.01.003
- *Christopher, A. N., & Schlenke, B. F. (2004). Materialism and affect: The role of self-presentational concerns. *Journal of Social and Clinical Psychology, 23*, 260-272.
doi:10.1016/S0191-8869(04)00097-2
- Claxton, R. P., Murray, J. B., & Janda, S. (1995). Spouses' materialism: Effects of parenthood status, personality type, and sex. *Journal of Consumer Policy, 18*, 267-291.
- Dawson, R. A. (2011). *An interactive model of antisocial behaviour in young offenders: The role of callous-unemotional traits, materialism and risk-taking behaviour*. (Doctoral

- thesis, University College London). Retrieved from
<http://discovery.ucl.ac.uk/1326280/1/1326280.pdf>
- Dean, L. R., Carroll, J. S., & Yang, C. (2007). Materialism, perceived financial problems, and marital satisfaction. *Family and Consumer Sciences Research Journal*, *35*, 260-281.
doi:10.1177/1077727X06296625
- Deckop, J. R., Jurkiewicz, C. L., & Giacalone, R. A. (2010). Effects of materialism on work-related personal well-being. *Human Relations*, *63*, 1007-1030.
doi:10.1177/0018726709353953
- Diener, E., & Oishi, S. (2000). Money and happiness: Income and subjective well-being across nations. In E. Diener & E. M. Suh (Eds.), *Culture and subjective well-being* (pp. 185-218). Cambridge: MIT Press.
- Diener, E., & Seligman, M.E.P. (2004). Beyond money: Toward an economy of well-being. *Psychological Science in the Public Interest*, *5*, 1–31. doi:10.1111/j.0963-7214.2004.00501001.x
- Engelberg, E., & Sjöberg, L. (2006). Money attitudes and emotional intelligence. *Journal of Applied Social Psychology*, *36*, 2027-2047. doi:10.1111/j.0021-9029.2006.00092.x
- *Flouri, E. (2004). Exploring the relationship between mothers' and fathers' parenting practices and children's materialist values. *Journal of Economic Psychology*, *25*, 743-752.
doi:10.1016/j.joep.2003.06.005
- *Flouri, E. (2005). Adult materialism/postmaterialism and later mental health: The role of self-efficacy. *Social Indicators Research*, *73*, 1-18. doi:10.1007/s11205-004-3234-z

- *Froh, J. J., Emmons, R. A., Card, N. A., Bono, G., & Wilson, J. A. (2011). Gratitude and the reduced cost of materialism in adolescents. *Journal of Happiness Studies*, *12*, 289-302. doi:10.1007/s10902-010-9195-9
- Garðarsdóttir, R. B., & Dittmar, H. (2012). The relationship of materialism to debt and financial well-being: The case of Iceland's perceived prosperity. *Journal of Economic Psychology*, *3*, 471-481. doi:10.1016/j.joep.2011.12.008
- Ger, G., & Belk, R. W. (1996). Cross-cultural differences in materialism. *Journal of Economic Psychology*, *17*, 55-77. doi:10.1016/0167-4870(95)00035-6
- Ger, G., & Belk, R. W. (1999). Accounting for materialism in four cultures. *Journal of Material Culture*, *4* (2), 183-204. doi: 10.1177/135918359900400204
- Goldberg, M. E., Gorn, G. J., Peracchio, L. A., & Bamossy, G. (2003). Understanding materialism among youth. *Journal of Consumer Psychology*, *13*, 278-288. doi:10.1207/S15327663JCP1303_09
- Gu, F. F., Hung, K., & Tse, D. K. (2005). Determinants for consumption materialism among late adolescents in China. *Advances in Consumer Research*, *32*, 649-650.
- Heathcote, J., Perri, F., & Violante, G. L. (2010). Unequal we stand: An empirical analysis of economic inequality in the United States, 1967-2006. *Review of Economic Dynamics*, *13*, 15-51. doi:10.1016/j.red.2009.10.010
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind* (3rd ed). New York: McGraw-Hill.
- *Hudders, L., & Pandelaere, M. (2011). The silver lining of materialism: The impact of luxury consumption on subjective well-being. *Journal of Happiness Studies*. doi:10.1007/s10902-011-9271-9

- *Karabati, S. (2012, June). *The positive and negative consequences of materialism in the work setting*. Paper presented at IACCP 21st International Conference, Stellenbosch, South Africa.
- *Karabati, S., & Cemalcilar, Z. (2010). Values, materialism, and well-being: A study with Turkish university students. *Journal of Economic Psychology, 31*, 624-633. doi: 10.1016/j.joep.2010.04.007
- *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. doi:10.1521/jscp.2007.26.5.521
- *Kasser, T. (2005). Frugality, generosity, and materialism in children and adolescents. In K. A. Moore & L. H. Lippman (Eds.), *What do children need to flourish? Conceptualizing and measuring indicators of positive development* (pp. 357-373). New York, NY: Springer.
- *Kasser, T., & Ahuvia, A. (2002). Materialistic values and well-being in business students. *European Journal of Social Psychology, 32*, 137-146. doi:10.1002/ejsp.85
- Kasser, T., & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin, 22*, 281-288. doi:10.1177/0146167296223006
- Kasser, T., & Ryan, R. (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. doi:10.1037//0022-3514.65.2.410
- Kasser, T., & Sheldon, K. M. (2000). Of wealth and death: Materialism, mortality salience, and consumption behavior. *Psychological Science, 11*, 348-351. doi:10.1111/1467-9280.00269

- Keng, A. A., Jung, K., Jiuan, T. S., & Wirtz, J. (2000). The influence of materialistic inclination on values, life satisfaction and aspirations: An empirical analysis. *Social Indicators Research, 49*, 317-333. doi:10.1023/A:1006956602509
- Koutstaal, S. W. (1998). *What's money got to do with it? How financial issues relate to marital satisfaction*. Available from ProQuest Dissertations and Theses database. (UMI No. 9826461).
- *La Barbera, P. A., Gürhan, Z. (1997). The role of materialism, religiosity, and demographics in subjective well-being. *Psychology & Marketing, 14*, 71-97. doi:10.1002/(SICI)1520-6793(199701)14:1<71::AID-MAR5>3.3.CO;2-V
- *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. doi: 10.1080/17439760802216311.
- *Leary, G. E. (2007). *Materialism and college students: An exploration of multiple socio-ecological domains*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3291051)
- Li, N. P., Patel, L., Balliet, D., Tov, W., & Scollon, C. N. (2011). The incompatibility of materialism and the desire for children: Psychological insights into the fertility discrepancy among modern countries. *Social Indicators Research, 101*, 391-404. doi:10.1007/s11205-010-9665-9
- Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Thousand Oaks, CA: Sage.
- Lucas, R. E., & Schimmack, U. (2009). Income and well-being: How big is the gap between the rich and the poor? *Journal of Research in Personality, 43*, 75-78. doi:10.1016/j.jrp.2008.09.004

- *Manolis, C., & Roberts, J. A. (2012). Subjective well-being among adolescent consumers: The effects of materialism, compulsive buying, and time affluence. *Applied Research in Quality of Life*, 7, 117-135. doi: 10.1007/s11482-011-9155-5.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50, 370-96.
- *Miller, S. S. (2009). *Materialism and psychosocial maladjustment: What accounts for the relation?* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3377382)
- *Mueller, A., Mitchell, J. E., Peterson, L. A., Faber, R. J., Steffen, K. J., Crosby, R. D., & Claes, L. (2011). Depression, materialism, and excessive Internet use in relation to compulsive buying. *Comprehensive Psychiatry*, 52, 420-424. doi:10.1016/j.comppsy.2010.09.001
- *Nickerson, C., Schwarz, N., Diener, E., & Kahneman, D. (2003). Zeroing in on the dark side of the American Dream: A closer look at the negative consequences of the goal for financial success. *Psychological Science*, 14, 531-536. doi:10.1046/j.0956-7976.2003.psci_1461.x
- *Norris, J. I., & Larsen, J. T. (2011). Wanting more than you have and its consequences for well-being. *Journal of Happiness Studies*, 12, 877-885. doi:10.1007/s10902-010-9232-8
- Nye, J. V. C. (2007). Standards of living and modern economic growth. In D. R. Henderson (Ed.), *The Concise Encyclopedia of Economics* (Vol. 2). Retrieved from <http://www.econlib.org/library>
- *Oprea, S. J., Buijzen, M., & Valkenburg, P. M. (2012). Lower life satisfaction related to materialism in children frequently exposed to advertising. *Pediatrics*, 130, 486-491. doi: 10.1542/peds.2011-3148

- *Otero-López, J.M, Pol, E. V., Bolaño, C. C., & Mariño, M. J. S. (2011). Materialism, life-satisfaction and addictive buying: Examining the causal relationships. *Personality and Individual Differences, 50*, 772-776. doi:10.1016/j.paid.2010.12.027
- *Park, J. K., & John, D. R. (2011). More than meets the eye: The influence of implicit and explicit self-esteem on materialism. *Journal of Consumer Psychology, 21*, 73-87. doi:10.1016/j.jcps.2010.09.001
- Peterson, R. A., & Brown, S. P. (2005). On the use of beta coefficient in meta-analyses. *Journal of Applied Psychology, 90*, 175-181. doi:10.1037/0021-9010.90.1.175
- *Piko, B. F. (2006). Satisfaction with life, psychosocial health and materialism among Hungarian youth. *Journal of Health Psychology, 11*, 827-831. doi:10.1177/1359105306069072
- *Powell, S. K. (2010). *True colors or chameleons? Materialism, well-being, religious orientation, and the purchase of Christian products*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3411437)
- Promislo, M. D., Deckop, J. R., Giacalone, T. A., & Jurkiewicz, C. L (2010). Valuing money more than people: The effects of materialism on work-family conflict. *Journal of Occupational and Organizational Psychology, 83*, 935-953. doi:10.1348/096317909X480167
- *Reeves, R. A., Baker, G. A., Truluck, C. S. (2012). Celebrity worship, materialism, compulsive buying, and the empty self. *Psychology & Marketing, 29*, 674–679. doi: 10.1002/mar.20553
- Richins, M. L. (2004). The Material Values Scale: Measurement properties and development of a short form. *Journal of Consumer Research, 31*, 209-219. doi:10.1086/383436

- Richins, M. L., & Dawson, S. (1990). Measuring material values: A preliminary report of scale development. In M. E. Goldberg, G. Gorn, & R. W. Pollay (Eds.), *Advances in Consumer Research* (Vol. 17, pp. 169-175). Provo, UT: Association for Consumer Research.
- *Richins, M. L., & Dawson, S. (1992). A consumer values orientation for materialism and its measurement: Scale development and validation. *Journal of Consumer Research*, *19*, 303-316. doi:10.1086/209304
- Rindfleisch, A., Burroughs, J. E., & Denton, F. (1997). Family structure, materialism, and compulsive consumption. *Journal of Consumer Research*, *23*, 312-325.
doi:10.1086/209486
- *Roberts, J. A., & Clement, A. (2007). Materialism and satisfaction with overall quality of life and eight life domains. *Social Indicators Research*, *82*, 79-92. doi:10.1007/s11205-006-9015-0
- Roets, A., Van Hiel, A., & Cornelis, I. (2006). Does materialism predict racism? Materialism as a distinctive social attitude and a predictor of prejudice. *European Journal of Personality*, *20*, 155-168. doi:10.1002/per.573
- *Ryan, L., & Dziuraviec, S. (2001). Materialism and its relationship to life satisfaction. *Social Indicators Research*, *55*, 185-197. doi:10.1023/A:1011002123169
- Schwartz, S. H., & Bilsky, W. (1987). Toward a universal psychological structure of human values. *Journal of Personality and Social Psychology*, *53*, 550-562.
- *Shrum, L. J., Lee, J., Burroughs, J. E., & Rindfleisch, A. (2011). An online process model of second-order cultivation effects: How television cultivates materialism and its consequences for life satisfaction. *Human Communication Research*, *37*, 34-57.
doi:10.1111/j.1468-2958.2010.01392.x

- Smith, J. M. (2011). *A longitudinal and cross-sectional examination of the relationships between materialism and well-being and materialism and depressive symptoms*. (Doctoral dissertation) Available from ProQuest Dissertations and Theses database. (UMI No. 3418747)
- *Srivastava, A., Locke, E. A., & Bartol, K. M. (2001). Money and subjective well-being: It's not the money, it's the motives. *Journal of Personality and Social Psychology*, 80, 959-971. doi:10.1037//0022-3514.80.6.959
- Steinberg, L. (2007). *Adolescence* (8th ed). New York, NY: McGraw-Hill.
- Sirgy, M. J., Gurel-Atay, E., Webb, D., Cicic, M., Husic, M., Ekici, A., et al., (in press). Is materialism all that bad? Effects on satisfaction with material life, life satisfaction, and economic motivation. *Social Indicators Research*, doi: 10.1007/s11205-011-9934-2
- Sutton, A. J. (2009). Publication bias. In Cooper, L. V. Hedges, & J. C. Valentine (Eds.), *The handbook of research synthesis and meta-analysis* (2nd ed., pp. 435-452). New York, NY: Russell Sage Foundation.
- *Swinyard, W. R., Kau, A.-K., & Phua, H.-Y. (2001). Happiness, materialism, and religious experience in the US and Singapore. *Journal of Happiness Studies*, 2, 13-32. doi:10.1023/A:1011596515474
- *Tan, S. J., Tambyah, S. K., & Kau, A. K. (2006). The influence of value orientations and demographics on quality-of-life perceptions: Evidence from a national survey of Singaporeans. *Social Indicators Research*, 78, 33-59. doi:10.1007/s11205-005-7158-z
- *Vansteenkiste, M., Duriez, B., Simons, J., & Soenenens, B. (2006). Materialistic values and well-being among business students: Further evidence of their detrimental effect. *Journal of Applied Social Psychology*, 36, 2892-2908. doi:10.1111/j.0021-9029.2006.00134.x

- Vittersø, J., Røysamb, E., and Diener, E. (2003). The concept of life satisfaction across cultures: exploring its diverse meaning and relation to economic wealth. *Social Indicators Research Series, 16*, 81-103. doi:10.1007/978-94-010-0271-4_6
- *Wasser, R. (2011). *Materialism and well being: Examining the strength of the negative relationship using multiple materialism measures and controlling for important variables*. (Doctoral dissertation) Available from ProQuest Dissertations and Theses database. (UMI No. 3426893)
- Watson, J. J. (2003). The relationship of materialism to spending tendencies, saving, and debt. *Journal of Economic Psychology, 24*, 723-739. doi:10.1016/j.joep.2003.06.001
- Wright, N. D., & Larsen, V. (1993). Materialism and life satisfaction: A meta-analysis. *Journal of Consumer Satisfaction, Dissatisfaction, and Complaining Behavior, 6*, 158-165.
- *Yurchisin, J., & Johnson, K. K. P. (2004). Compulsive buying behavior and its relationship to perceived social status associated with buying, materialism, self-esteem, and apparel-product involvement. *Family and Consumer Sciences Research Journal, 32*, 291-314. doi:10.1177/1077727X03261178
- *Zhong-yao, X., Wei, H., Nan, Z., & Jiang, Y. (2011). Mediating effect of social support in relationship between materialism and anxiety. *Chinese Journal of Clinical Psychology, 19*, 528-530.