

Money is Power: Monetary Intelligence—Love of Money and Temptation of Materialism Among Czech University Students

Soňa Lemrová · Eva Reiterová · Renáta Fatěnová ·
Karel Lemr · Thomas Li-Ping Tang

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Abstract In this study, we develop a theoretical model of monetary intelligence (MI), explore the extent to which individuals' meaning of money is related to the pursuit of materialistic purposes, and test our model using the whole sample and across college major and gender. We select the 15-item love of money (LOM) construct—Factors Good, Evil (Affective), Budget (Behavioral), Achievement, and Power (Cognitive)—from the Money Ethic Scale and Factors Success and Centrality and two indicators—from the Materialism Scale. Based on our data collected from 330 university students in Czech Republic, we provide the following findings. First, our *formative* models are superior to our *reflective* models. Second, for the *reflective* model, money represents Power, Good, Achievement, and not

Evil, in the context of materialism. Our *formative* model suggests that those who pursuit materialism cherish Achievement (vanity) but Budget their money poorly. Third, multi-group analyses illustrate that humanities students (62.4 % female) consider money as Evil and Budget their money poorly, while those in natural sciences (37.6 % female) do not. Further, men are obsessed with Achievement, whereas women do not Budget their money properly, suggesting reflective temptation for males and impulsive temptation for females. Our novel discoveries shed new lights on the relationships between LOM and materialism and offer practical implications to the field of consumer behavior and business ethics.

Keywords Meaning of money · Monetary intelligence · Love of money (LOM) · Materialism · Power · Budget · Achievement · Vanity · Reflective-impulsive temptation · Gender · College major · Czech Republic

S. Lemrová · E. Reiterová · R. Fatěnová
Department of Psychology, Palacký University, Olomouc,
Křížkovského 10, 771 80 Olomouc, Czech Republic
e-mail: sona.lemrova@upol.cz

E. Reiterová
e-mail: eva.reiterova@upol.cz

R. Fatěnová
e-mail: renata.fatenova@seznam.cz

K. Lemr
RCPTM, Joint Laboratory of Optics of Palacký University and
Institute of Physics of Czech Academy of Sciences, Faculty of
Science, Palacký University, Olomouc, 17, Listopadu 12,
772 07 Olomouc, Czech Republic
e-mail: lemr@jointlab.upol.cz

T. L.-P. Tang (✉)
Department of Management and Marketing, Jennings A. Jones
College of Business, Middle Tennessee State University,
Murfreesboro, TN 37132, USA
e-mail: Thomas.Tang@mtsu.edu

Money is the instrument of commerce and a measure of value (Smith 1776/1937). The meaning of money is in the eye of the beholder (McClelland 1967). Money has mysterious and magical qualities, multiple symbolic meanings, and numerous uses (Furnham and Argyle 1998; Yang et al. 2013; Zelizer 1989; Zhou et al. 2009). Most people *think* about money a lot, but *talk* about it very little and only to a very few people (Rubenstein 1981).

Mitchell and Mickel (1999) stated that most studies of money attitudes are idiosyncratic with several exceptions (Furnham 1984; Tang 1992; Yamauchi and Templer 1982). Following the ABC model of attitudes (Bagozzi et al. 1979) and theory of planned behavior (TPB, Ajzen 1991), Tang (1992), developed the Money Ethic Scale (MES) with

affective (Good and Evil), behavioral (Budget), and cognitive (Achievement, Respect, and Power) components. This construct predicts voluntary turnover 18 months later (Tang et al. 2000). The love of money (LOM) construct (Tang and Chiu 2003), a subset of MES, predicts unethical intentions in cross-sectional studies (Singhapakdi et al. 2013; Tang et al. 2011), multi-panel studies (Tang and Chen 2008; Tang and Liu 2012; Tang and Tang 2010), and actual cheating behavior in laboratory experiments (Chen et al. 2013).

Further, cognitive neuroscience suggests that “emotion” and “reason” activate different areas of the brain (Greene et al. 2001). Following TPB and cognitive neuroscience (Hofmann et al. 2009; Jia et al. 2013), Tang and Sutarso (2013) developed a theoretical model involving temptation, monetary intelligence (MI, a mediator), and unethical intentions using a multi-panel design. For the *positive indirect* path, yielding to temptation (high cognitive impairment and lack of self-control) leads to poor MI (low stewardship behavior but high cognitive meaning) that, in turn, leads to high unethical intentions. For the *negative direct* path, those who do not yield to temptation (strong cognitive evaluation and self-control) have high unethical intentions. Moreover, across gender, males display reflective temptation (a negative direct path); whereas females show impulsive temptation (a positive indirect path). In a cross-cultural study, money smart managers (MI) with low (negative) affective motive, high stewardship behavior, and low cognitive meaning have higher pay satisfaction than life satisfaction (Tang et al. 2013).

Materialism (Belk 1984, 1988), an important construct in the field of marketing and consumer behavior, has three sub-constructs: Factors Success, Centrality, and Happiness (Richins 2004; Richins and Dawson 1992). We are what we have is perhaps the most basic and powerful focus for individuals (Dittmar and Drury 2000). Men show their power and control/dominance, while women are concerned about symbolic, self-image, and emotional aspects of self (Dittmar et al. 1995; Dittmar and Pepper 1994). However, there is a dearth of empirical research in the literature concerning the relationships between the meaning of money and materialism due to the lack of cross-disciplinary research by scholars in psychology of money and consumer behavior (Ger and Belk 1996; Griffin et al. 2004) with only a few exceptions (e.g., Liao and Wang 2008; Tang et al. 2012). Recent developments in research methodology allow researchers to use reflective and formative models in developing and testing theories (MacKenzie et al. 2011). Very little research has provided a coherent understanding of how money attitudes *formulate* MI which is related to materialism.

To the best of our knowledge, there is no research on “money attitudes” and “materialism” conducted in “Czech

Republic”.¹ This study fills the void. We develop a theoretical model of MI which examines the relationship between (1) a 15-item LOM Scale with Factors Good, Evil (Affective), Budget (Behavioral), Achievement, and Power (Cognitive) (Tang 1992) and (2) Factors Success and Centrality and two indicators of Materialism² (Richins 2004), explore both the reflective and formative models of MI, and test our theoretical model using the whole sample and across major and gender. Based on 330 university students in Czech Republic, our *formative* models are superior to the *reflective* models using different outcome variables. For the *reflective* model, money is Power, Good, Achievement, and not Evil (Figs. 1, 3) in the materialistic context. For the *formative* model, those who pursuit materialism esteem Achievement but Budget their money poorly (Figs. 2, 4). Subsequent multi-group analyses illustrate that humanities students (62.4 % female) consider money as Evil and Budget their money poorly, while natural sciences majors (37.6 % female) do not (Figs. 5, 6). Further, male students have high Achievement cognition and female students do not Budget money properly, suggesting reflective temptation for males and impulsive temptation for females (Dittmar et al. 1995). Our new discoveries expand theory of MI from the context of unethical intentions (Tang and Sutarso 2013), cheating (Chen et al. 2013), and satisfaction with pay and life (Tang et al. 2013) to a new context of consumer behavior—materialism. Since similar patterns of reflective and impulsive temptations lead to unethical behaviors, cheating, and materialistic pursuits, our findings provide important and practical implications to individuals and help them curb unethical intentions and reduce the dark side of materialism.

Theory and Hypotheses

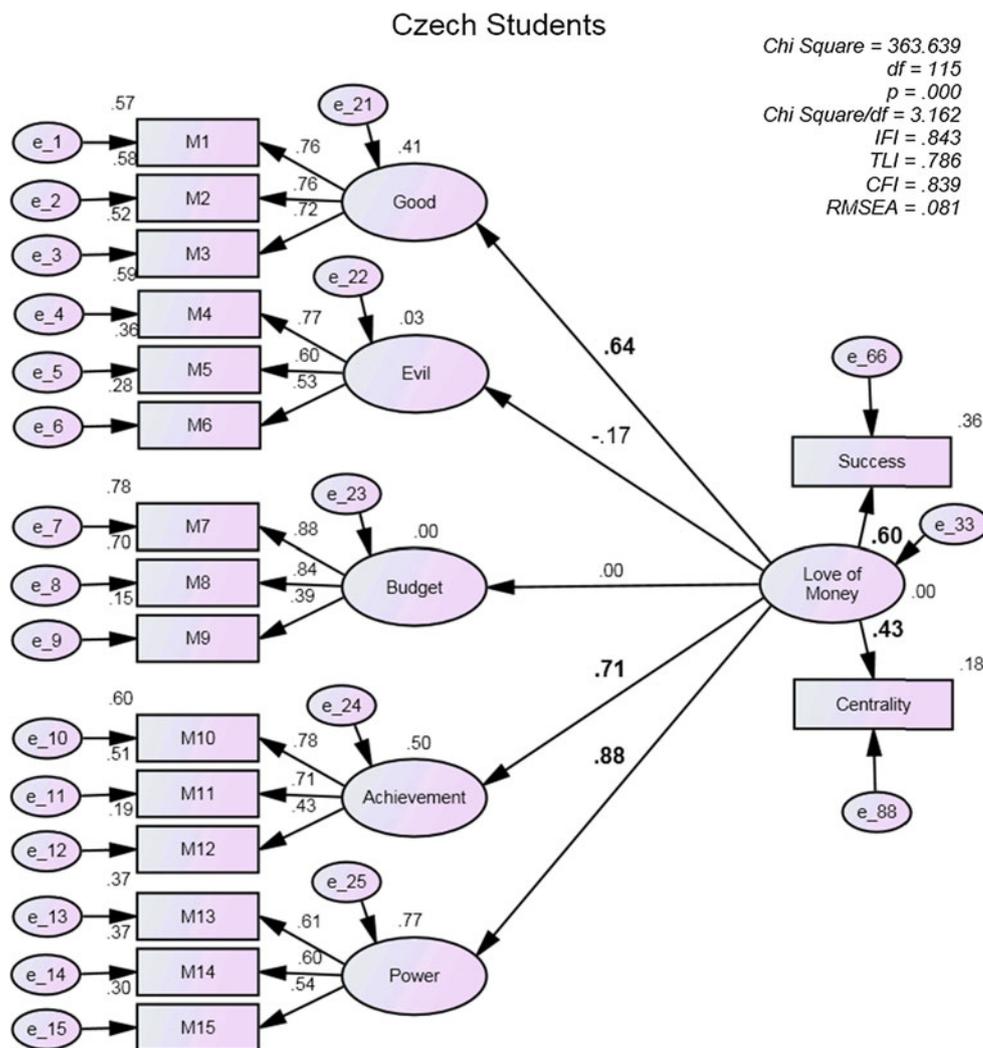
Materialism

Materialism, an important construct in the consumer behavior and marketing literature (Belk 1988; Easterlin and Crimmins 1991; Richins and Dawson 1992), has three sub-constructs—Success, Centrality, and Happiness (Richins 2004). Materialists judge their own and others’ success by the quantity and quality of possessions accumulated (Success). They place possessions and the acquisition thereof at

¹ We searched Web of Knowledge on September 16, 2013 and found no article using “money attitudes”, “materialism”, and “Czech Republic”. Among articles with the terms materialism and Czech Republic (Kment and Kocmankova 2012; Rabusic 2000; Wu and Huan 2010), none discussed “money attitudes” and “materialism” in the scope similar to ours.

² We used the following terms: the material values scale and materialism scale, interchangeably.

Fig. 1 Reflective model of MI and the pursuit of materialism (two factors)



the center of their lives and worship possessions (Centrality). They claim that possessions are essential to their satisfaction and well-being in life (Happiness). “A man’s Self is the sum total of all that he CAN call his” (James 1890; p. 291). Consumers with high materialistic values think that they are the sum of their possessions. According to Malcolm Forbes (a billionaire publisher), “He who dies with the most toys wins”. Since there is no end to this type of comparisons³; all, but the super rich, will be depressed.⁴ Many materialistic consumers use possessions to improve their self-image and show off all things that they own in a social context (Dittmar and Pepper 1994). Overtime, there has been a sharp increase in private materialism as a life goal and a decline in the importance of personal self-fulfilment (Easterlin and Crimmins 1991). Materialism

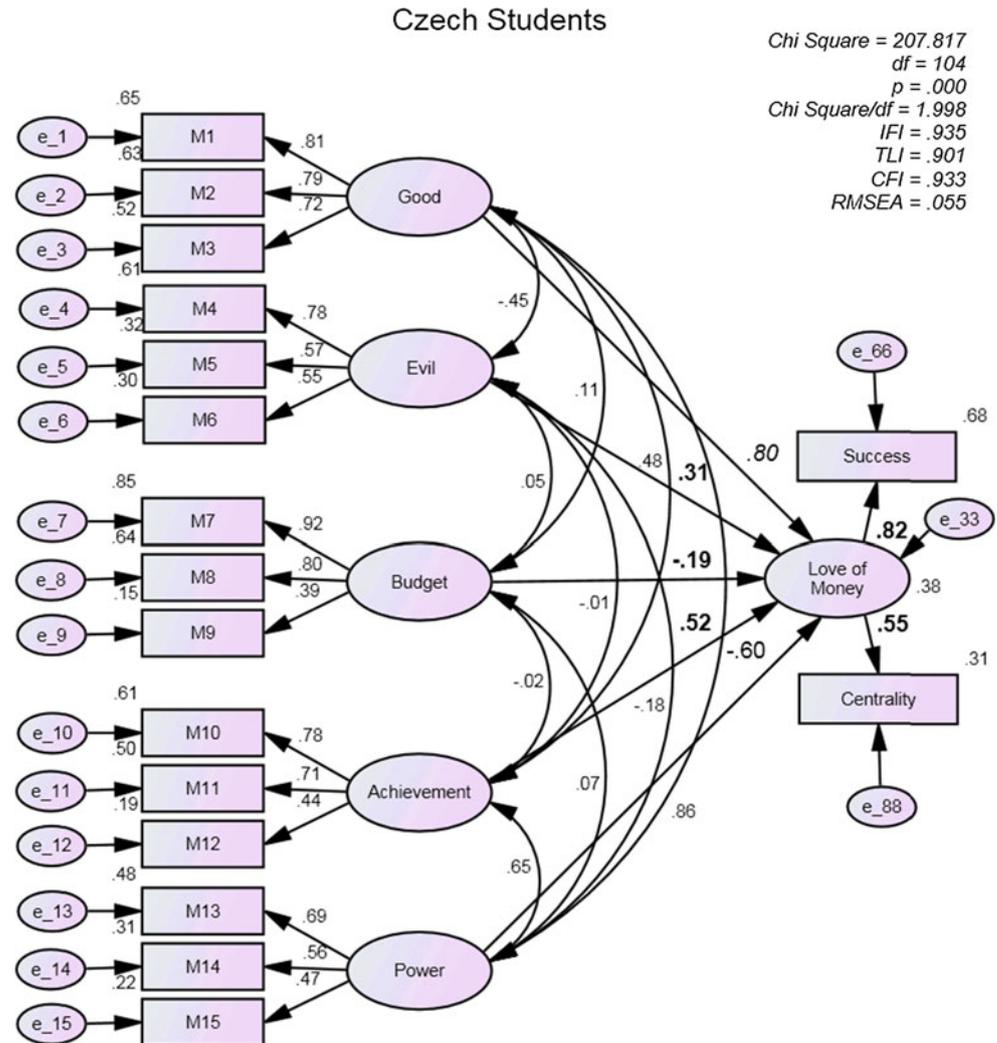
deals with spending money and possessions, but the construct itself is not related to managing/budgeting money.

Research suggests that people with materialistic values tend to become big spenders of luxury and expensive goods (e.g., Trojsi et al. 2006; Watson 2003), have much lower concern for saving money (Christopher et al. 2004), and have favourable attitudes toward borrowing (Watson 2003). In a cross-cultural study, materialism is associated with lower intrinsic mastery goals but higher extrinsic performance goals for students in UK and Hong Kong (Ku et al. 2012). For students in Hong Kong, Materialism predicts decreases in mastery goals, increases in performance goals, and deterioration of school performance, a year later. Recently, Garðarsdóttir and Dittmar (2012) found that people with materialistic values have worse money-management skills and greater tendency towards compulsive buying and spending than those without. In general, low money-management skills are associated with higher amounts of debt. After controlling for income and

³ Yet there is no end to all his toil, and riches do not satisfy his greed. (Ecclesiastes 4: 8).

⁴ Take care to guard against all greed, for though one may be rich, one’s life does not consist of possessions. (Luke 12: 15).

Fig. 2 Formative model of MI and the pursuit of materialism (two factors)



money-management skills, materialism, however, is directly related to the amount of money a person owes. In this study, we explore explicitly people's "money attitudes" as related to "materialism" that may make a significant contribution to our understanding of people's MI and pursuit of materialistic goals and purposes.

Research suggests that the satisfaction with money is *relative*, whereas the feeling related to consumption is *absolute* (Hsee et al. 2009). First, pay satisfaction depends on not only their income but also their love of money (LOM) and how they compare their pay with that of others (Tang et al. 2005). Money attitude (e.g., love of money) is important because "whoever loves money never has money enough; whoever loves wealth is never satisfied with his income" (<http://www.biblegateway.com>, Ecclesiastes, 5: 10, New International Version; Kahneman and Deaton 2010; Tang 2007; Tang et al. 2006). Money (a symbol of power) is *metaphorically* an addictive and insatiable *drug*—the more they have, the more they want (Lea and Webley 2006). People also have a tendency to earn more than they

need—leading to overearning, hoarding possessions, and mindless accumulation (Hsee et al. 2013). Thus, money, a symbol of power, is related to possessions and materialism.

Second, since the feeling related to consumption is *absolute* (Hsee et al. 2009); some materialistic individuals spend a specific and "absolute" amount of money to possess products (\$315 for a pair of sneakers) or consume services (\$300 for a haircut) to simply show off and impress others in their social context.⁵ If people value money to show off, get power, compare themselves to others, or overcome self doubts, then, it leads to *low* subjective well-being (Srivastava et al. 2001): It is not the money, but the "motives" that lead to low happiness. Some materialistic people use their luxury and expensive goods (Trojsi et al. 2006; Watson 2003) and possessions to impress others and show off in front of other people—i.e., Factor Success of the Materialism Scale (Richins 2004).

⁵ Of what use are they to the owner except to feast his eyes upon? (Ecclesiastes 5: 10, The Catholic Bible).

For most people, materialism leads to the “dark side” of the American dream (Arndt et al. 2004; Belk 1984; Deckop et al. 2010; Kasser and Ryan 1993; Mick 1996). However, due to financial obligations and opportunities available in a given situation, only “limited” consumers manage their money successfully, reach their financial goals (Gomez-Mejia and Balkin 1992), and enjoy the “bright side” of the financial dream (Tang et al. 2012) in their lives, following the Parable of the Talents and the Matthew Effect (Judge et al. 2007; Merton 1968; Tang 1996).⁶ Specifically, those in the 30–44 age group, rural residents, and married people experienced the “dark side” of financial dream, whereas older (over 60 age group), unmarried, urban, and younger people (18–29 age group) enjoyed the “bright side” of their financial optimism (Tang et al. 2012).

Temptation

Theory of “free will” advocates the notion that people prize self-control, respect rules, and make intelligent, rational decisions in our societies (Baumeister 2002; Baumeister et al. 2008). Tang et al. (2012) asserted that from the perspective of temptation, materialistic consumers tend to lose their self-control, experience cognitive impairment, follow the social norm or their friends, buy the most trendy fashion, products, and services, deviate away from their carefully planned long-term goals, focus exclusively on short-term goals that provide “instant gratification” (Gino et al. 2011), make unintelligent, irrational, and *impulsive* decisions, waste their money, and regret their action deeply, later (Mead et al. 2009). Self-control is “the ability to override or change one’s inner responses, as well as to interrupt undesired behavioral tendencies (such as impulses) and refrain from acting on them” (Tangney et al. 2004, p. 274).

The self-control itself demands a lot of energy which operates like a muscle, strength, or “willpower” (Baumeister et al. 2008, p. 8) and has a limited capacity. Research suggests that those who are on a diet (exerting self-control) tend to eat more candy, if they are given the opportunity in an experiment due to the depletion of their self-control resources (Baumeister 2002). Self-control is the poorest among people who have performed a prior act of self-control.⁷ Similarly, due to resource depletion, sleep

⁶ To anyone who has, more will be given and he will grow rich; from anyone who has not, even what he has will be taken away. (Matthew 13, 12).

⁷ Now the serpent was the most cunning of all the animals that the Lord God had made. The serpent asked the woman, “Did God really tell you not to eat from any of the trees in the garden?” The woman answered the serpent: “We may eat of the fruit of the trees in the garden; it is only about the fruit of the tree in the middle of the garden that God said, ‘You shall not eat it or even touch it, lest you die.’” But the serpent said to the woman: “You certainly will not die!” (Genesis 3: 1–4).

deprivation leads to workplace deviance (Christian and Ellis 2011). Others are too tired to tell the truth (Mead et al. 2009).

Emotional distress contributes to breakdowns in self-control. Those who suffer cognitive impairment may *not* have the mental competencies or capacities to think clearly, focus on practical long-term goals, become fiscally prudent stewards, and budget their money carefully. When the going gets tough, the tough go shopping (Atalay and Meloy 2006). To most people, making money is torturous (hard labor) which inflicts pain; yet shopping gives them pleasure—the opportunity to spend money using credit cards—enjoy the products and services first and pay for them later, control over their money by spending it anyway they wish, improve self-esteem or mood temporarily, buy materialistic goods that they do not need, hoard them in a closet at home, and forget about it quickly. Shopping provides a false sense of control and happiness which may contribute to self-control breakdowns, poor stewardship behavior, and some dire consequences.

More than half of Americans (51.8 %) engage in “retail therapy”—spending money to improve their mood (Atalay and Meloy 2011; Smith 2013). The negative moods that lead to retail therapy have been associated with greater *impulsivity* and a *lack of behavioral control*. People use retail therapy—a prevalent consumer behavior—as a part of a strategic effort to repair mood.

In summary, individuals with low self-esteem, poor self-image, high emotional distress, and high loneliness may have the highest urge to splurge (Arndt et al. 2004). Due to depletion of self-control resources in controlling themselves (not to spend money), individuals become very vulnerable to temptations in the environment, budget their money poorly, and seek vanity,⁸ when opportunity exists. Some extreme compulsive consumers fail to keep track of their own behaviors and spend much more than they earn. As a consequence, some have to sell their house in order to pay down the accumulated debts due to impulsive buying using multiple credit cards, lack of liquidity, and paying only the minimum credit debt each time. According to Kenneth Rogoff, a Harvard University Professor and former chief economist at the International Monetary Fund, some consumers are probably liquidity constrained (Leonard 2010). We trace individuals’ materialism and materialistic pursuits back to money attitudes (the love of money).

Money Attitude and Love of Money

Among numerous money-related constructs (Furnham and Argyle 1998; Mitchell and Mickel 1999; Srivastava et al. 2001; Yamauchi and Templer 1982), the MES (Tang 1992,

⁸ All things are vanity. (Ecclesiastes 1: 2).

1993, 1995; Tang and Gilbert 1995) or the LOM construct, a subset of MES (Tang and Chiu 2003; Tang and Chen 2008; Tang et al. 2006, 2011) has become one of the most cited and *systematically* used money attitudes in the literature. It predicts voluntary turnover (Tang et al. 2000) and unethical behavioral intention in cross-sectional studies and multi-wave panel studies (Tang and Chen 2008; Tang and Liu 2012). This construct has been substantiated in empirical studies across three dozen entities around the world (Gbadamosi and Joubert 2005; Lim and Teo 1997; Nkundabanyanga et al. 2011; Tang et al. 2006, 2008, 2011, 2013; Vitell et al. 2006; Wong 2008) and cited in influential reviews (Kish-Gephart et al. 2010; Lea and Webley 2006; Mickel and Barron 2008; Mitchell and Mickel 1999; Zhang 2009) and in numerous textbooks (e.g., Colquitt et al. 2013; Furnham and Argyle 1998; McShane and Von Glinow 2013; Milkovich et al. 2014; Rynes and Gerhart 2000).

Organizations reward people at the *top* of the organizational echelon with higher pay than those at the bottom—reflecting internal equity, pay differential, distributive justice (Merton 1968), and the tournament theory of compensation (Eriksson 1999). A strong performance-reward linkage motivates individuals to work hard. The meritocracy ethos has been culturally accepted into many capitalist countries around the world. High love-of-money males prefer equity over equality, supporting the Matthew Effect (Tang 1996). The *haves*, with accumulated wealth, power, are likely to acquire new external wealth and power and exploit opportunities. CEOs purposefully select top paying CEOs from other corporations to serve on their executive boards in order to boost their own pay packages (O'Reilly et al. 1988). People treat money as a scorecard and consider money as their achievement (the cognitive aspect). The construct of Achievement is significantly related to materialism for students in South Africa (Nnedum et al. 2011).

The number one predictor of management professors' pay is the number of job changes (Gomez-Mejia and Balkin 1992). Similarly, mental health professionals take a proactive stance and change jobs frequently in order to get paid at the market values and obtain high income. Their LOM attitude predicts voluntary turnover, 1.5 years later (Tang et al. 2000). Those who budget their money carefully have high satisfaction with life and pay (Tang et al. 2013) and low financial anxiety. Taken together, to achieve financial success, people must have not only self-control, a proactive mind set, and motivation to *increase wealth* but also prudent budgeting skills to *reduce spending*.

Monetary Intelligence

Recent developments in research methodology and theories suggest that constructs, such as MI, can be considered not only as a reflective model but also a formative model (Edwards

2011; Edwards and Bagozzi 2000; MacKenzie et al. 2011). In order to achieve model identification, a formative construct must emit paths to (1) at least two unrelated latent constructs with reflective indicators, (2) at least two theoretically appropriate reflective indicators, or (3) one reflective indicator and one latent construct with reflective indicators. Paths emanating from a misspecified construct may lead to Type I errors, whereas paths leading to a misspecified construct may lead to Type II error, based on research in marketing and consumer research (Jarvis et al. 2003).

Monetary Intelligence (MI, money smart) explores the relationship between (1) a multi-dimensional measurement scale involving affective motive, stewardship behavior, and cognitive meaning of money and (2) at least two additional theoretically appropriate reflective constructs and/or indicators—the outcome variables. For example, in a multi-panel study of temptation (a formative model), researchers investigated MI (a formative model), and unethical intentions (a reflective model) among students in the US. The formative model of MI (a mediator) has two outcome indicators related to Machiavellianism and a reflective construct of unethical intentions with three sub-constructs—*theft, corruption, and deception*. Tang and Sutarso (2013) revealed that falling into temptation (cognitive impairment and lack of self-control) is related to poor MI—poor stewardship behavior (Make, Budget, Donate, and Contribute) and high cognitive meaning (Respect, Achievement, and Power)—which, in turn, leads to unethical intentions. In another cross-cultural multi-panel study, Chen et al. (2013) adopted two outcome indicators of MI—“money motivates people to perform unethically” and “money is a major cause of people’s unethical and evil acts”. Falling into temptation is related to poor MI—high love-of-money motive (Rich, Motivator, and Importance) that promotes unethical intentions.

On the basis of 6,586 managers in 32 geopolitical entities across six continents, Tang et al. (2013) showed that high MI managers with low affective motive (*negative love of money*), high stewardship behavior (Make, Budget, Donate, and Contribute), and low cognitive meaning (Achievement, Power, Respect, and Happiness) have higher pay satisfaction than life satisfaction. Subsequent multi-group analysis revealed that managers in high and medium GDP countries had higher life satisfaction than pay satisfaction, whereas those in low GDP entities had higher pay satisfaction than life satisfaction. GDP per capita at the country level was related to high life satisfaction, but not related to pay satisfaction and Factor Happiness of MI; income (*z* income within each country) was related to both pay satisfaction and life satisfaction, but not to Factor Happiness. In summary, researchers have investigated the theoretical model of MI using different constructs, outcome variables, and samples. Individuals

with high MI tend to have high satisfaction with pay and life and low unethical intentions because they have low LOM motive, high stewardship behavior, and low importance on the cognitive meaning of money. Furthermore, researchers have tested the MI construct from 2 student samples to a large cross-cultural study involving managers in 32 geopolitical entities (Tang et al. 2013).

Monetary Intelligence and Materialism

In the present study, we develop a new theoretical model of MI and ascertain the extent to which affective, behavioral, and cognitive components of money attitudes formulate the latent MI construct which, in turn, is related to outcome variables—materialistic values and goals. First, our formative model of Tang's (1992) original MES involving Factors Good, Evil (Affective), Budget (Behavioral), and Achievement and Power (Cognitive) is different from those recent studies mentioned above. Second, instead of using satisfaction with pay and life or unethical intentions, we selected Factors Success and Centrality of Materialism, and two items of Factor Success (Richins 2004) as our outcome indicators. On the basis of our review, we posit: Individuals with low Budgeting skills (stewardship behavior) but high desire to show their Achievement (vanity) are vulnerable to temptation of materialism. We explore two additional moderators below.

College Major

In 1971, only 49.9 % of freshmen in America indicated that the important reason in deciding to go on to college is to “make more money”. In 1993, that number increased to 75.1 % (Astin 1998). The proportion of college freshmen planning to major in physical sciences and mathematics fell by half between 1966 and 1988 (Green 1989). About 5 % of the men and women entering college planned to pursue mathematics majors in 1966, but has fallen to less than 1 % by 1988. Further, a large proportion of science majors abandoned the sciences for other fields. Those in the biological sciences also showed a steep decline. The *sciences* usually attract academically “able” students disproportionately. In fact, 45.3 % of college students in science and engineering majors reported high school grade averages of at least A-, compared to 26.3 % for those in other majors.

The marked decline of interest in science and technology has been paralleled by an equally marked increase in interests in business careers. In particular, most women shifted their majors from education to business. The rising popularity of business reflects students' high materialistic values in “making money” and higher-paying jobs. Faculty members and students in the college of business have more favourable attitudes toward money than those in other colleges and disciplines (Chen and Tang 2013; Tang

et al. 2003, 2012; Tang and Tang 2012). Students in science majors may require stronger self discipline, mathematical or scientific dispositions, and self-control than those in humanities, reflecting self-selection, intellectual abilities, personal values, and the Attraction-Selection-Attrition (ASA) model (Schnieder et al. 1995). These facts and research findings lead us to assert that students majoring in natural sciences and humanities may display different patterns of results using our theoretical model. Specifically, we suspect that students majoring in humanities are more likely to fall into impulsive temptations (Budgeting their money poorly) than those in natural sciences because the former (in soft sciences) may have lower levels of self-discipline, self-control, and cognitive reasoning skills than the latter (in hard sciences). The differences between natural sciences and humanities may also reflect the differences in gender composition, discussed below.

Gender

A strong association between materialistic values and compulsive buying is an understudied, but growing, dysfunctional consumer behavior with harmful psychological and financial consequences (Dittmar 2005). Men tend to project independence and activity, while women tend to buy symbolic goods related to appearance and emotional aspects of self. “When people are upset, they indulge immediate impulses to make themselves feel better, which amounts to giving short-term affect regulation priority over other self-regulatory goals” (Tice et al. 2001, p. 53). Women are more susceptible to engage in “retail therapy” (Atalay and Meloy 2006), buy things impulsively, and are more emotional than men (Mueller et al. 2011). Since most women attempt to exercise self-control; given a chance, they are more *vulnerable* to temptation, likely to lose their self-control, and spend more money than they make, compared to their male counterparts. People lose track of their self-control, become cognitively impaired, fall into temptation, and spend their money impulsively. The US saving rates in 2006 dropped to all time low at “−0.5 %” since the Great Depression (Associated Press 2006). Male participants' actions mirror reflective temptation, while female participants' behaviors represent emotional impulse. Gender is a moderator (Tang and Sutarso 2013). We assert that high vanity (Achievement) and poor stewardship behavior (Budget) may promote materialistic pursuits for males and females, respectively. We test our hypotheses on an exploratory basis, below:

Hypothesis 1 Factors Budget (negatively) and Achievement (positively) formulate MI which, in turn, is related to materialistic pursuits.

Hypothesis 2 Students majoring in humanities are more likely to fall into impulsive temptations (Budget their

money poorly) than those in natural sciences. College major is a moderator.

Hypothesis 3 Males value Achievement (reflective temptation), whereas females Budget their money poorly (impulsive temptation). Gender is a moderator.

Methods

Participants

We contacted active university students of several universities in Czech Republic. Most of these students lived in the City of Olomouc, Czech Republic. Located on the Morava River, the city is the ecclesiastical metropolis and historical capital city of Moravia and is an administrative centre of the Olomouc Region and sixth largest city in the country. The city has about 102,000 residents, but its larger metropolitan area has a population of about 480,000 people. We asked them to complete a survey questionnaire in electronic form using social network and collected data from 330 students. Due to the diversity of respondents, we divided the data into two subsets: students in humanities ($n = 191$, 57.9 %) and those in natural sciences ($n = 139$, 42.1 %; with 48 in sciences, 28 in medicine, 41 in economics, and 22 in engineering). Students' age varied between 19 and 27 ($M = 21.9$). There were 245 female (74.24 %) and 85 (25.76 %) male students (see Tables 1, 2).

Measurement

We asked respondents to complete their basic demographic data (age, gender, and college major) and two survey instruments. We selected the 30-item MES (Tang 1992) using a 7-point Likert-type measure with *completely disagree* (1), *neutral* (4) and *completely agree* (7) as scale anchors. In addition, we adopted the short 9-item Material Values Scale (Richins 2004), developed based on the original 18-item Consumer Values Orientation or, Materialism Scale (MS) (Richins and Dawson 1992). We used the 5-point Likert-type scale with *disagree strongly* (1), *neutral* (3), and *agree strongly* (5) as scale anchors. We adopted the English survey and translated it into the native language using the multistage translation/back-translation procedure (Brislin 1980). See Appendix for all scale items.

Results

Descriptive Results

Table 1 shows the mean, standard deviation, reliability, and correlations of major variables. Our composite

reliability was slightly better than Cronbach's alpha. Male students tended to major in natural sciences, had high scores related to Achievement, Power, and overall LOM. Students in natural sciences considered money as Evil and had high overall LOM. All five sub-constructs of money attitudes were significantly correlated with the overall LOM. People with high overall Materialism⁹ score considered money Good, Budgeted their money poorly, valued Achievement and Power highly, and had high overall LOM.

Confirmatory Factor Analysis

Since we adopted scales developed in the US and applied them to people in a new country, Czech Public, we verified configural (factor structure) and metric (factor loading) invariance of our measures in this new sample. We used the following criteria for configural invariance (passing 4 out of 5 criteria): (1) Chi square and degrees of freedom (χ^2/df), (2) incremental fit index (IFI > .90), (3) Tucker–Lewis Index (TLI > .90), (4) comparative fit index (CFI > .90), and (5) root mean square error of approximation (RMSEA < .10) (Vandenberg and Lance 2000). We achieve metric invariance when the differences between unconstrained and constrained multi-group confirmatory factor analyses (MGCFA) are not significant ($\Delta CFI/\Delta RMSEA \leq .01$, Cheung and Rensvold 2002).

The Love of Money Measure

Based on the extent literature, we selected 15-item, 5-factor LOM Scale from the original 30-item MES (Tang 1992). First, we tested our theoretical measurement model using confirmatory factor analysis (CFA) based on our whole sample (Table 3). We compared Model 1 (a 15-item, 1-factor model) with Model 2 (a 15-item, 5-factor model) of LOM and found that Model 2 was significantly better than Model 1. Our Model 2 results revealed good configural invariance. Second, we adopted the same theoretical model of LOM, checked measurement invariance across college major (natural sciences vs. humanities) using multi-group confirmatory factor analysis (MGCFA), and presented the findings in Model 3. Third, we, then, set all the factor loadings to be the same across college major (Model 4) in a constrained MGCFA. Fourth, since the differences between Models 3 and 4 did not reach significance ($\Delta CFI/\Delta RMSEA \leq .01$, Cheung and Rensvold 2002); we achieved metric invariance for the LOM Scale across college major.

⁹ In our theoretical measurement model of Materialism, one item (Item 4) was reverse scored (see Appendix).

Table 1 Mean, standard deviation, reliability, and correlations among variables

| Variable | <i>M</i> | <i>SD</i> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------------------------|----------|-----------|------|-------|-------|--------|-------|--------|-------|-------|-------|-----|
| 1. Age | 21.89 | 1.37 | | | | | | | | | | |
| 2. Sex (<i>M</i> = 1) | .26 | .44 | .13* | | | | | | | | | |
| 3. Major (<i>S</i> = 1) | .42 | .49 | -.07 | .16** | | | | | | | | |
| 4. Good | 5.57 | 1.14 | .10 | .09 | .05 | | | | | | | |
| 5. Evil | 3.02 | 1.11 | -.02 | -.03 | .15** | -.32** | | | | | | |
| 6. Budget | 4.90 | 1.16 | .02 | .03 | .10 | .18** | .02 | | | | | |
| 7. Achievement | 3.91 | 1.16 | .07 | .12* | .05 | .32** | -.01 | .07 | | | | |
| 8. Power | 5.10 | 1.00 | .11 | .19** | .02 | .58** | -.09 | .09 | .40** | | | |
| 9. Love of money | 4.50 | .61 | .10 | .14* | .13* | .64** | .22** | .50** | .66** | .71** | | |
| 10. Materialism | 2.96 | .72 | -.04 | .07 | .02 | .40** | -.04 | -.15** | .29** | .29** | .29** | |
| Reliability α | | | | | | .81 | .66 | .72 | .67 | .61 | .75 | .81 |
| Composite reliability | | | | | | .82 | .67 | .77 | .68 | .61 | .93 | .85 |

Note *N* = 330. Gender: Male = 1, Female = 0. Major: Natural Sciences = 1, Humanities = 0

Cronbach's α for the 15-item Love of Money (7-point scale) = .75 (3 items for factor evil were reverse scored)

Cronbach's α for the 9-item materialism (5-point scale) = .81 (Item 4 was reverse scored)

Composite reliability = (sum of standardized loading)² / ((sum of standardized loading)² + sum of indicator measurement error). Indicator measurement error = 1 - (standardized loading)²

We calculated composite reliability based on models 2 and 6 of Table 3

* *p* < .05, ** *p* < .01

Table 2 Crosstab results (gender × major)

| | Major | | Total |
|-----------------|------------|----------|-------|
| | Humanities | Sciences | |
| Gender | | | |
| Female | | | |
| Count | 153 | 92 | 245 |
| Expected count | 141.8 | 103.2 | 245.0 |
| % within gender | 62.4 | 37.6 | 100.0 |
| % within major | 80.1 | 66.2 | 74.2 |
| % of total | 46.4 | 27.9 | 74.2 |
| Male | | | |
| Count | 38 | 47 | 85 |
| Expected count | 49.2 | 35.8 | 85.0 |
| % within gender | 44.7 | 55.3 | 100.0 |
| % within major | 19.9 | 33.8 | 25.8 |
| % of total | 11.5 | 14.2 | 25.8 |
| Total | | | |
| Count | 191 | 139 | 330 |
| Expected count | 191.0 | 139.0 | 330.0 |
| % within gender | 57.9 | 42.1 | 100.0 |
| % within major | 100.0 | 100.0 | 100.0 |
| % of Total | 57.9 | 42.1 | 100.0 |

Note *N* = 330. χ^2 (1) = 8.149, *p* = .004

The Material Values Scale (Materialism Scale)

Similarly, we also compared Model 5 (a 9-item, 1-factor Model) with Model 6 (a 9-item, 3-factor Model) of the Materialism Scale and found that Model 6 was significantly better than Model 5, supporting configural (factor structure) invariance. Further, Model 8 was not significantly better than Model 7 ($\Delta CFI/\Delta RMSEA \leq .01$), suggesting that metric (factor loading) invariance existed across majors (natural sciences vs. humanities). In summary, our CFA and MGCFA results revealed that the 15-item, 5-factor LOM Scale and the 9-item, 3-factor Materialism scale have achieved both configural (factor structure) and metric (factor loading) invariance across major for this student sample.

Common Method Variance

Since we collected cross-sectional data from one source at one point in time, the common method variance (CMV) bias may be a concern (Podsakoff et al. 2003). We examined CMV in two steps. First, Harman's single-factor test examines the unrotated factor solution involving all items of interest in an exploratory factor analysis (EFA)—the combination of the 15-item, 5-factor money scale (MES, Tang 1992; LOM, Tang and Chiu 2003) and the 9-item, 3-factor material values scale

Table 3 CFA results

| Model | χ^2 | <i>df</i> | <i>p</i> | χ^2/df | IFI | TLI | CFI | RMSEA | Models | Δ CFI | Δ RMSEA |
|--|----------|-----------|----------|-------------|-----|-----|-----|-------|-----------|--------------|----------------|
| Love of money (LOM) | | | | | | | | | | | |
| 1. Reflective 1-factor | 712.92 | 90 | .000 | 7.92 | .56 | .40 | .55 | .15 | 1 vs. 2 | .39 | .09 |
| 2. Reflective 5-factor | 161.17 | 80 | .000 | 2.02 | .94 | .91 | .94 | .06 | | | |
| 3. Reflective across major | 253.49 | 160 | .000 | 1.58 | .94 | .90 | .93 | .04 | 3 vs. 4 | .00 | .00 |
| 4. Reflective across major + constraint | 263.49 | 170 | .000 | 1.55 | .94 | .91 | .93 | .04 | | | |
| Materialism (MS) | | | | | | | | | | | |
| 5. Reflective 1-factor | 165.97 | 27 | .000 | 6.15 | .83 | .71 | .83 | .13 | 5 vs. 6 | .09 | .04 |
| 6. Reflective 3-factor | 84.81 | 24 | .000 | 3.53 | .93 | .86 | .92 | .09 | | | |
| 7. Reflective across major | 107.62 | 48 | .000 | 2.24 | .93 | .86 | .93 | .06 | 7 vs. 8 | .00 | .00 |
| 8. reflective across major + constraint | 112.84 | 54 | .000 | 2.09 | .93 | .88 | .93 | .06 | | | |
| Common method variance (CMV) | | | | | | | | | | | |
| 9. LOM + MS | 452.95 | 224 | .000 | 2.02 | .91 | .87 | .91 | .06 | 9 vs. 10 | .04 | .00 |
| 10. LOM + MS + CMV | 332.35 | 200 | .000 | 1.66 | .95 | .92 | .95 | .06 | | | |
| Monetary intelligence with 2 factors of materialism (success + centrality) | | | | | | | | | | | |
| 11. Reflective + 2 factors | 363.64 | 115 | .000 | 3.16 | .84 | .79 | .84 | .08 | 11 vs. 12 | .09 | .02 |
| 12. Formative + 2 factors | 207.82 | 104 | .000 | 2.00 | .94 | .90 | .93 | .06 | | | |
| Monetary intelligence with 2 indicators of success (impress others + show off) | | | | | | | | | | | |
| 13. Reflective + 2 indicators | 328.50 | 115 | .000 | 2.86 | .86 | .81 | .86 | .08 | 13 vs. 14 | .08 | .03 |
| 14. Formative + 2 indicators | 192.68 | 104 | .000 | 1.85 | .94 | .91 | .94 | .05 | | | |
| Monetary intelligence multi-group | | | | | | | | | | | |
| 15. Across major | 324.77 | 208 | .000 | 1.56 | .93 | .89 | .92 | .04 | | | |
| 16. Across gender | 354.60 | 210 | .000 | 1.69 | .91 | .86 | .90 | .05 | | | |

Note Sample size: $N = 330$. Male = 85, Female = 245; Humanities = 191, Nature Sciences = 139

(Richins 2004). Results showed six factors with eigenvalues greater than one. The amount of variance explained (total = 59.78 %) in each factor was as follows: 22.06, 11.29, 8.79, 7.27, 6.14, and 4.25 %. When we set the number of factors to be extracted to one (1) in a separate EFA, the total amount of variance explained was 22.05 % which was significantly less than 50 %. If the single factor accounted for more than 50 % of variance, then, common method variance exists.

Second, we compared (1) the measurement model *without* the addition of an unmeasured latent common method variance (CMV) factor and (2) our measurement model *with* a CMV factor (Models 9 vs. 10) and found no significant change for RMSEA (Δ RMSEA = .00) but difference/change for CFI (Δ CFI = .04 > .01) (Cheung and Rensvold 2002). The combination of all these findings suggests that CMV is *not* a serious threat in this study (Spector 2006). These results give us confidence to examine our theoretical model in subsequent analyses.

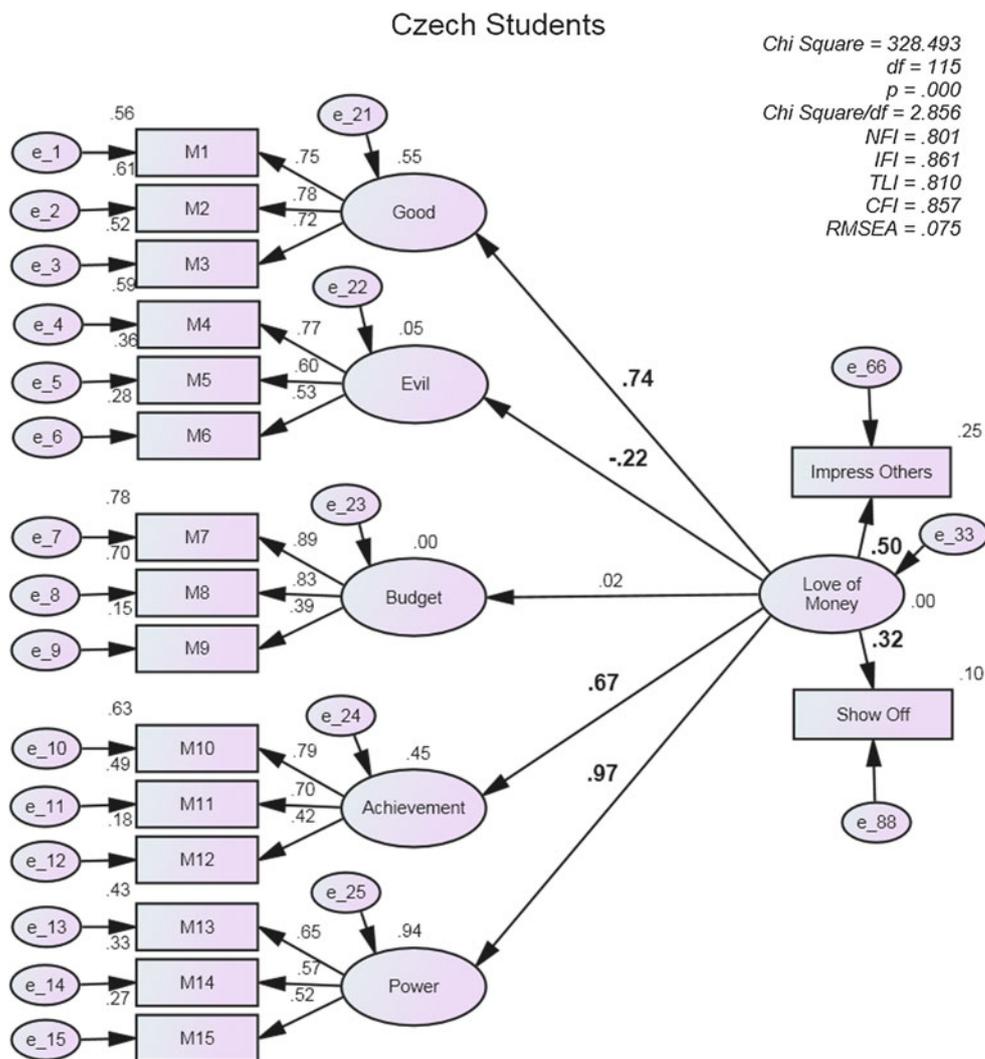
Monetary Intelligence (MI) with Two Factors of Materialism

First, since Factors Success and Centrality were the most highly correlated among three factors of

Materialism (Table 3, Model 6); we selected them as two outcome constructs in our theoretical model. We developed a parcel for each factor (calculated the mean of three items). We presented results ($N = 330$) of our *reflective* model in Table 3, Model 11 and our *formative* model in Model 12. Our formative model was superior to the reflective model. In reporting our results, all significant findings are presented in bold face in our Figs. 1–6.

Our *reflective* model (Fig. 1) showed that in the context of materialism, the factor loadings of major factors for MI (in descending order) were as follows: Power (.88), Achievement (.71), Good (.64), not Evil (–.17), and Budget (.00, n.s.). MI was also related to Success (.60) and Centrality (.43). For our *formative* model (Fig. 2), Achievement (.52), Evil (.31), and Budget (–.19) contributed significantly to MI which, in turn, was related to Success (.82) and Centrality (.55). For those who focus on Success and Centrality aspects of Materialism, they consider money as Achievement, Evil, and do not Budget their money carefully. Since MI is more strongly related to Factor Success (.82) than Factor Centrality (.55), we take a closer look at two items of Factor Success in our subsequent analyses.

Fig. 3 Reflective model of MI and the pursuit of materialism (two indicators)



Modified MI with Two Indicators of Factor Success (Materialism)

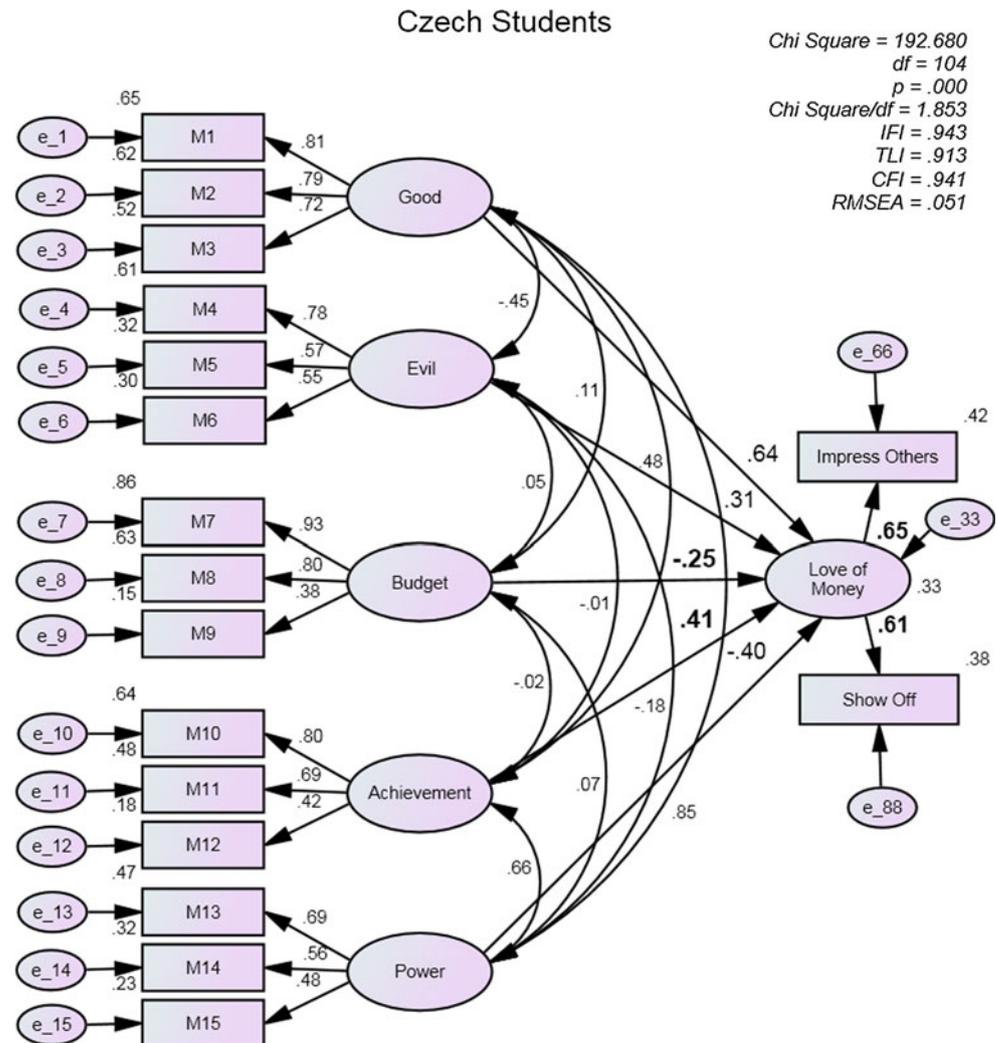
Results of our Model 6 (Table 3) suggested that Items 3 and 2 of Factor Success had the highest factor loadings. In a modified model of MI, we selected Items 3 (I like to own things that impress people—impress others) and 2 (the things I own say a lot about how well I’m doing in life—show off) of Factor Success as two outcome indicators (Appendix). We again compared both reflective and formative models and presented results in Models 13 and 14, respectively. Our formative model of MI was better than the reflective model. The *reflective* model (Fig. 3) indicated that MI had the following factors: Power (.97), Good (.74), Achievement (.67), Not Evil (-.22), and Budget (.02, n.s.). For the *formative* model, Factors Achievement (.41) and Budget (-.25) contributed significantly to MI, which, in turn, were significantly associated with impress others (.65) and show off (.51) (Fig. 4). Similar to our Fig. 2,

Fig. 4 suggests that for those who try to impress others and show off, they are likely to consider money as Achievement and have poor Budgeting behaviors. Both findings supported Hypothesis 1. On the basis of Fig. 4, we provided additional data analysis below.

Modified MI Across College Major

We applied MGCFA and tested our model (Fig. 4) across college major (humanities vs. natural sciences) (Table 3, Model 15). For Students in humanities (n = 191), both Evil (.38) and poor Budgeting skills (-.26) formulated MI, which was related to impress others and show off (Fig. 5). For students in natural sciences (n = 139), none of the sub-constructs contributed significantly to MI which, in turn, was related to impress others and show off (Fig. 6). Thus, college major was a moderator, supporting Hypothesis 2. Table 2 revealed the composition of males and females in natural sciences (37.6 % female) and humanities (62.4 %

Fig. 4 Formative model of MI and the pursuit of materialism (two indicators)



female), suggesting that there were more females in humanities than in natural sciences (Chi Square (1) = 8.149, $p = .004$). These findings led us to performed additional analysis below.

Modified MI Across Gender

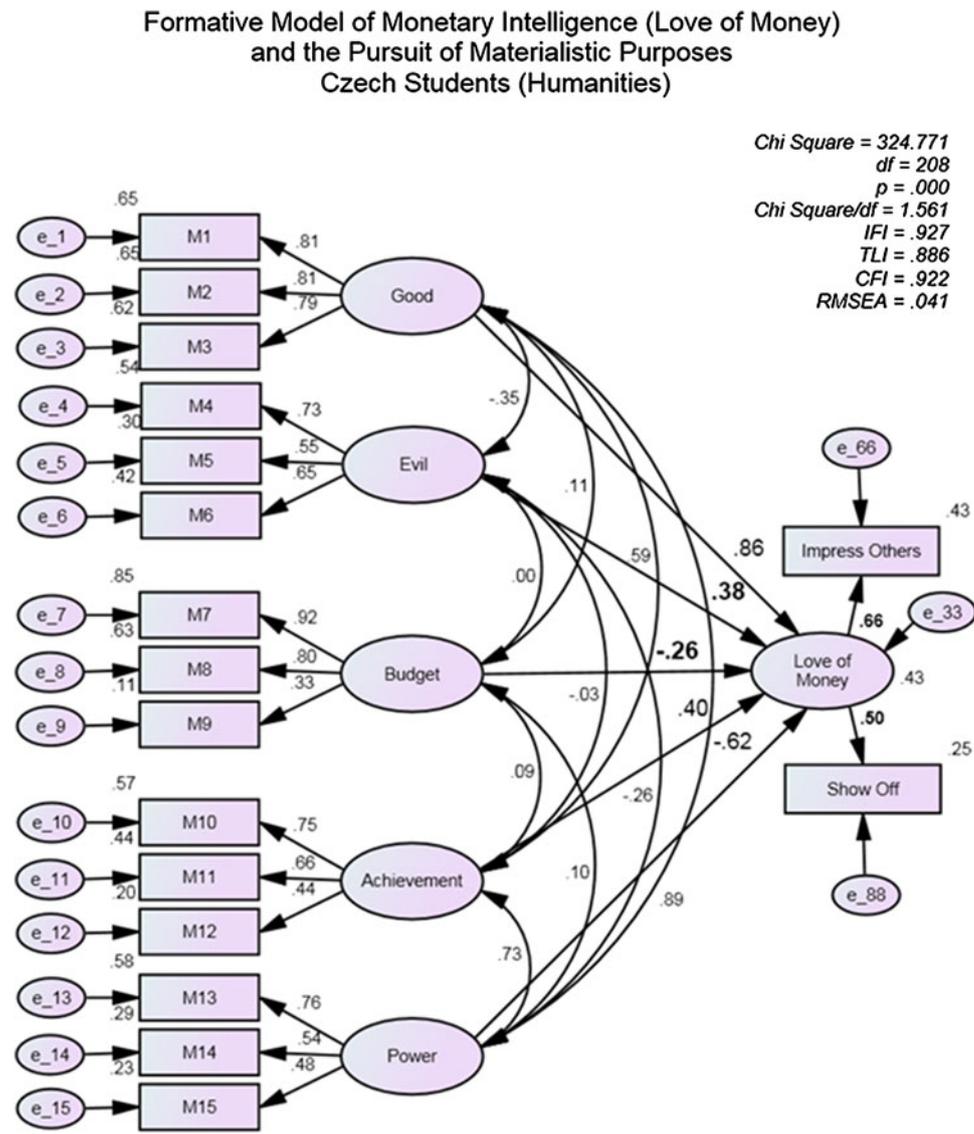
We tested our model across gender (males vs. females) and offered some interesting discoveries (Table 3, Model 16). For male students ($n = 85$), Achievement (.79) contributed significantly to MI which, in turn, was related to impress others (.63) and show off (.76). For female students ($n = 245$), poor Budgeting skills (-.31) formulated MI, which was related to impress others (.54) and show off (.62). Overall, when considering materialistic pursuits, male students pay attention to the cognitive aspect of money attitude (Achievement), whereas female students do *not* handle the behavioral aspect well (negative Budget). These findings supported the notion that males fall into *reflective* temptation—focusing on Achievement, whereas

females yield to *impulsive* temptation—Budget their money poorly. Thus, gender was a moderator, supporting Hypothesis 3.

Discussion

In this article, we develop a new theoretical model of MI and investigate the relationship between a 15-item Love of Money Scale (LOM) with Factors Good, Evil (Affective), Budget (Behavioral), Achievement, and Power (Cognitive)—selected from the original Money Ethic Scale (MES, Tang 1992) and Factors Success and Centrality and two indicators of Factor Success—selected from the Material Values Scale (Richins 2004). We collect data from 330 university students in Czech Republic and test our theoretical model using both formative and reflective models based on the whole sample and across college major and gender. Our

Fig. 5 Formative model of MI and the pursuit of materialism (two indicators) humanities students



findings provide the following theoretical, empirical, and practical contributions.

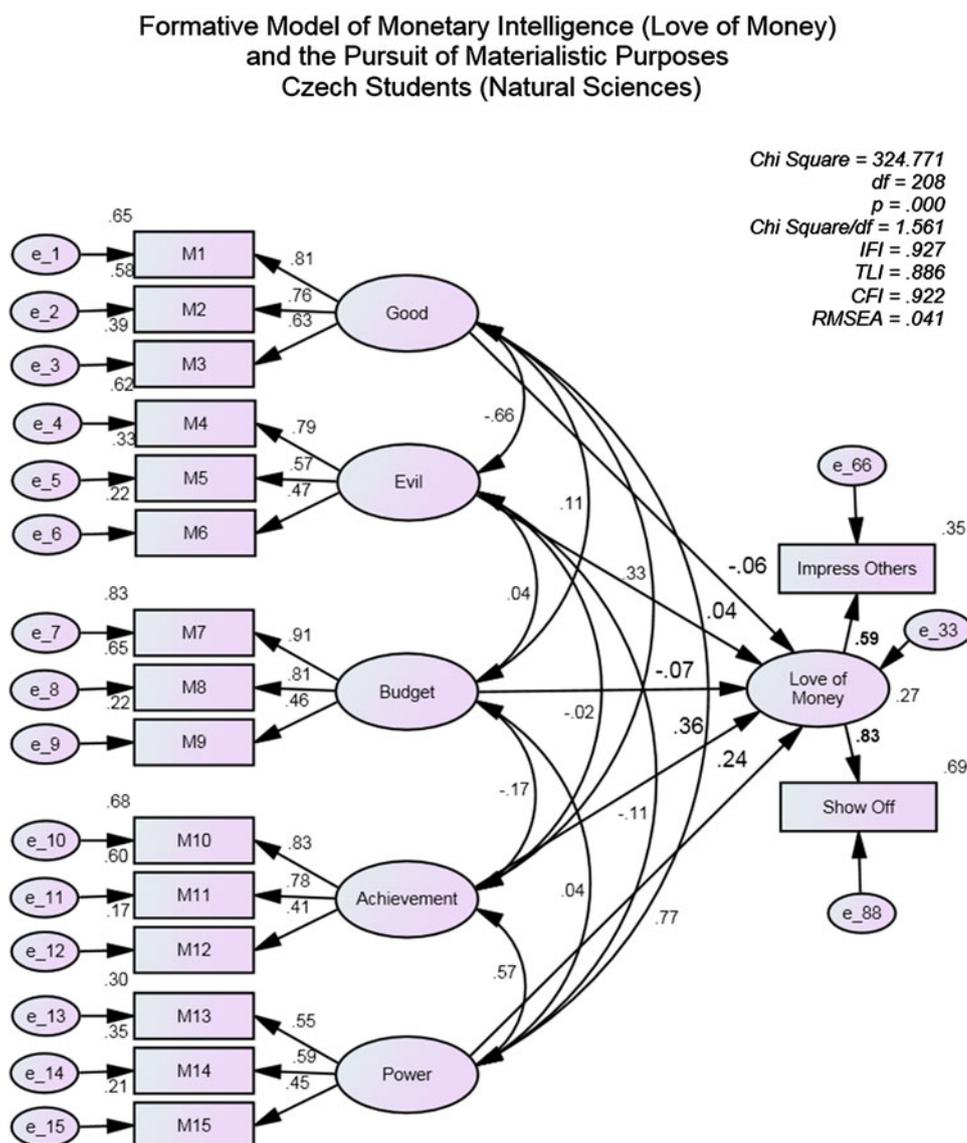
Theoretical Contributions

Researchers have used traditional exploratory factor analysis to identify the factors and factor loadings of an attitudinal measure (e.g., Tang 1992; Money Ethic Scale). Due to new developments in research methodology and the measurement theories, we explore both *formative* and *reflective* models using confirmatory factor analysis in the present study. First, formative models are superior to *reflective* models using different outcome variables—Factors Success and Centrality of materialism and two items of Factor Success. Second, following a traditional *reflective* model of money attitudes, our novel findings demonstrate that in the context of *materialistic pursuits*, money is

Power, Good, Achievement, and not Evil. Thus, for materialists, money is power. As mentioned, money is *metaphorically* an addictive and insatiable *drug*—the more they have, the more they want (Lea and Webley 2006) which leads to “overearning”, hoarding possessions, and mindless accumulation, i.e., materialism.

Third, for our *formative* model, those who pursuit materialism venerate Achievement highly but Budget their money poorly. Fourth, subsequent multi-group analysis illustrates that students in humanities consider money as Evil and Budget their money poorly, while those in natural sciences do not. Fifth, male students have high Achievement cognition and female students do not Budget money properly. College major and gender are moderators. Our results indirectly support the notion that women are *more* emotionally involved in their consumptions and pursuing materialism *carelessly*

Fig. 6 Formative model of MI and the pursuit of materialism (two indicators) natural sciences students



than their male counterparts. Finally, we extend our theoretical model of MI from the perspectives of unethical behavior intentions and satisfaction with pay and life to the field of consumer behavior—materialism and test the boundary of MI in a new country—Czech Republic.

Empirical Contributions

Our application of reflective and formative models using CFA greatly enhances our understanding of the relationship between money attitudes and materialism. We test our theoretical constructs using a student sample in Czech Republic, explore the boundaries of our theoretical model, and validate these constructs in a new culture. Our theoretical constructs of MI in this study match our university sample and offer new insights to scholars and practitioners.

Practical Contributions

Many business organizations' seductive marketing campaigns arouse consumers' desires and entice them to purchase trendy products and flashy services. Since the feeling related to consumption is *absolute*, numerous individuals in many materialistic societies fall into temptation, spend a lot of their money, buy consumer goods and services on credit in order to impress others, show off, and look "well-off", affluent, and prosperous in front of their peers, even if they are deep in debt. Americans cannot resist the temptation and engage in "retail therapy"—buying "things" impulsively to improve their mood (Atalay and Meloy 2006). These consumers tend to have negative moods and lack of self-control and want to experience instant gratification which causes deep and long-lasting financial burdens. Those who consider money as a symbol of their

Achievement and do not budget their money wisely tend to focus on materialistic pursuits. The combination of both Factors Achievement and Budget contributes to the notion of *vanity*—buying *things* to show off and impress others.

If people value money to show off and compare themselves to others, then, it leads to *low* subjective well-being (Srivastava et al. 2001). It is not the money, but the motives that lead to low happiness. Recent anecdotal evidence (Locke 2013) suggests that an individual's 1-million-dollar house in a subdivision became utterly “inadequate” when he found out about his neighbor's 2-million-dollar house. In order to re-gain prominence, power, and respect in the neighborhood, that person leveled his 1-million-dollar house and built a 3-million-dollar mansion to show that his new 3-million-dollar mansion is superior to a 2-million-dollar house and that he has more power/money than his neighbor. However, it is possible that his 3-million-dollar mansion is inferior to a 60-million-dollar estate, somewhere else. One can never be happy, if one compares with the rich and competes to be the king of the hill.

It is financially feasible for the *haves* to pursue materialism. The *haves* can demonstrate their Achievement by spending their money lavishly and showing their possessions (\$60 million estate, \$10 million cottage by the sea, yachts, and airplanes) and collections of art works, visible to their friends in the society, because money per se is not an issue. However, this is *not* for everyone. When the *have-nots* attempt to compare themselves with the rich and imitate the *haves* as their role model by doing the same (in a smaller scale) in their social context, they run into deep debts that may ruin their financial and psychological well-being seriously. Their vanity and poor stewardship behavior cause them to experience the dark side of materialism. Thus, for most in our societies, we must avoid thinking about—“a man's Self is the sum total of all that he CAN call his” (James 1890) and “he who dies with the most toys wins”. We must remove ourselves away from the *tainted* materialistic societies and be content with what we have, to avoid temptations (see Chen and Tang 2013; Tang and Sutarso 2013 for additional discussion).¹⁰

Males' Achievement obsession and females' poor Budgeting skills—suggest that males fall into reflective temptation whereas females yield to impulsive temptation (Tang and Sutarso 2013). Men tend to be less emotional than females (Dittmar et al. 1995). Those who have poor stewardship behavior tend to have low subjective well-being (Deckop et al. 2010; Kasser and Ryan 1993; Tang et al. 2012). Most people spend more than they earn and cannot control their spending using credit cards. This is one

of the reasons why the prepaid debit card industry in the US saw \$77 billion in transactions in 2012 (King 2013).

Following the theory of planned behavior (TPB) (Ajzen 1991), attitudes, social norm, and perceived control are related to behavioral intentions which in turn, are related to behaviors. Cognitive impairment and lack of self-control are the two major contributing factors that cause people to fall into temptation (Chen et al. 2013; Tang and Sutarso 2013). In the present study, worshipping Achievement and Budgeting money poorly formulate the MI construct that, in turn, is related to people's pursuit of materialistic goals. Yielding to temptation in the context of materialism and business ethics can be explained by the same theoretical model of MI—cognitive impairment and lack of self-control.

How Does Money Make People Happy?

Strong relationships between the wealth of nations (GDP) and subjective well-being (SWB) exist (Diener 1984; Diener et al. 1999). The effects of GDP change were weaker and significant only for life evaluations (Diener et al. 2013). Across countries, average life satisfaction is higher in countries with greater GDP per capita (Sacks et al. 2010; Tang et al. 2013). Cross-sectional, longitudinal, and experimental results suggest that happiness is associated with and precedes numerous successful outcomes (Lyubomirsky et al. 2005). Giving money away (Dunn et al. 2011) and donating money to charities promote happiness in life (Tang et al. 2013).

According to “My Philanthropic Pledge”, Buffet (2010) said that he “couldn't be happier,” when he pledged to donate 99 % of his wealth to charity. Furthermore, “this pledge does not leave me contributing the most precious asset, which is *time*”. As a consequence, millions in the society and around the world will benefit from a good neighbor. The one who humbles himself will be exalted.¹¹ Be a giver of gifts, hope, and life. Store up treasures in heaven—in people's hearts which materialistic possessions cannot accomplish. It is very simple, but difficult to do.^{12,13} When we die, we cannot take anything with us (Sappenfield 2013). The best way of using money to buy happiness is to give it away. Which one will people remember—the ones who stored up for themselves treasures on earth versus the ones who stored up treasures in heaven? We can only

¹¹ Whoever finds his life will lose it, and whoever loses his life for my sake will find it. (Matthew 10: 39).

¹² Do not store up for yourselves treasures on earth,...but store up treasures in heaven, where neither moth nor decay destroy, nor thieves break in and steal. For where your treasure is, there also will your heart be. (Matthew 16: 19–21).

¹³ It is easier for a camel to pass through the eye of a needle than for one who is rich to enter the kingdom of God. (Matthew 19: 24).

¹⁰ If we have food and clothing, we shall be content with that. (1 Timothy 6: 8).

take away what we give away (Nolte 2013): People will remember the good neighbors (Tang et al. 2008) and what the good neighbors have done for them in their lives.

Edward A. Snyder, dean of the University of Chicago, Graduate School of Business, stated: “People who understand theory are more likely to understand practice—today and tomorrow” (Merritt 2006, p. 64). First, with a good understanding of our new theory of MI, individuals are able to reduce unethical intentions and the dark side of their financial dream by curbing their LOM motives, enhancing their stewardship behavior, and reducing the cognitive obsession of money. Second, researchers, educators, and practitioners may develop training programs and workshops, identify steps and actions to improve cognitive evaluation, enhance their self-control, boost emotions and moods, manage their money properly, become prudent stewards, and reduce “retail therapy”—spending money to improve their mood (Atalay and Meloy 2006; Smith 2013).

When people focus only on materialism and their own wealth, they will do whatever it takes to make money which may lead to unethical behavior intentions and corruptions. Enron’s executives, for example, were provided with substantial bonuses in the form of stock options. Given the size of the bonus payments, the “temptation” to engage in unethical behavior was, in hindsight, disturbingly obvious (*The Daily Record* 2003). When tempted, most are willing to be a little dishonest and to do whatever it takes to become rich. Getting rich is the affective aspect of people’s money attitudes. Those who want to get rich will take risks and engage in unethical behaviors (Tang and Sutarso 2013; Tang et al. 2008, 2011). Our research provides another interesting twist to the Parable of Talents and the Matthew Effect. Taken together, in many materialistic societies, the *haves*—with good Budgeting (money management) skills and humble aspiration for Achievement—become prudent and ethical stewards of their money (Tang and Sutarso 2013; Tang et al. 2013), do not fall into temptation, and are likely to share the master’s joy and enjoy a rich life not only financially but also psychologically and spiritually than those *have-nots*.

Limitations

We collected a small convenient non-random sample ($N = 330$) from active university students of several universities in the Czech Republic using social network and a cross-sectional research design. These computer savvy students may not represent the population of university students in Czech Republic. Our fit index (TLI) was slightly lower than .90 in our multiple group analyses across college major and gender due to model complexity and smaller sample size for these sub-groups. A caution is warranted regarding our results across gender because the

male sample was smaller than the female sample. We do not examine LOM motive (Rich, Motivator, and Important) in this study. Future researchers may want to combine the 15-item, 5-factor measure explored in the present study and the expanded versions of the 33-item, 11-factor measure of MI (Tang and Sutarso 2013; Tang et al. 2013) and verify our findings in different regions and countries and explore other constructs (e.g., intrinsic/extrinsic motivation to learn and school performance, Ku et al. 2012) to generalize our results to other cultures around the world.

Conclusion

In the context of *materialistic pursuits*, money is Power, among these Czech university students. Individuals, trying to impress others and show off, have high obsession with Achievement but Budget their money poorly. In addition, humanities students consider money as Evil and Budget their money poorly, while natural sciences majors do not. Men are highly obsessed with Achievement, whereas women do not Budget their money properly, suggesting reflective temptation for males and impulsive temptation for females. Our novel discoveries shed new lights on the relationships between love of money (LOM) and materialism, offer important implications to the field of consumer behavior and business ethics, add new vocabulary to the conversation, and make significant theoretical, empirical, and practical contributions to the literature (Colquitt and Zapata-Phelan 2007).

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Appendix

Scales and Items in the Theoretical Model of Monetary Intelligence (MI)

The Love of Money Scale (Money Ethic Scale)

Good

1. Money is attractive.
2. Money is important.
3. Money is an important factor in the lives of all of us

Evil

4. The love of money is the root of all evils.
5. Money is evil.
6. Money is shameful.

Budget

7. I use my money very carefully.
8. I budget my money very well.
9. I pay my bills immediately in order to avoid interest or penalties.

Achievement

10. Money is a symbol of success.
11. Money represents one's achievement.
12. Money will help you express your competence and abilities.

Power

13. Money gives you autonomy and freedom.
 14. Money means power.
 15. Money makes people respect you in the community.
 16. (Money can give you the opportunity to be what you want to be.)* Not used in this study.
- A. Two Outcomes of MI (Factors Success and Centrality of Materialism)
- B. Two Outcomes/Indicators of MI (Items 3 and 2 of Factor Success, Materialism):
17. I like to own things that impress people.
 18. The things I own say a lot about how well I'm doing in life.

The Material Value Scale (Materialism)

Factor Success

1. I admire people who own expensive homes, cars, and clothes.
2. The things I own say a lot about how well I'm doing in life.
3. I like to own things that impress people.

Centrality

4. I try to keep my life simple, as far as possessions are concerned. (Reverse Scored)
5. Buying things gives me a lot of pleasure.
6. I like a lot of luxury in my life.

Happiness

7. My life would be better if I owned certain things I don't have.
8. I'd be happier if I could afford to buy more things.
9. It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like.

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