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# The Impact of Money Attitudes on the Relationship Between Income and Financial Satisfaction

**Abstract:** Prior research has showed that the subjective perception of objective wealth might be affected by various individual difference variables, such as one's love of money, level of desires, or materialistic inclinations. This paper examines an impact of attitudes towards money on the relation between personal net income and household income, and its subjective evaluation, measured as financial satisfaction and subjective economic well-being. The results of two studies revealed that the affective dimension of money attitudes (assigning the symbolic meaning to money) partially mediated the relationship between income and financial satisfaction. Moreover, the instrumental dimension of attitude towards money (individuals' attitude toward money management) moderated this relationship: The relationship between the two was stronger for individuals highly concentrated on money management than for those with low scores on this factor.

**Key words:** money attitudes, wealth perception, income, financial satisfaction

## INTRODUCTION

The majority of the research on wealth perception has focused on the causal relationship between objective indicators of wealth, such as income, assets or the level of debt, and its subjective indicators, such as ultimate financial satisfaction or perceived ability to make ends meet (Wilhelm, Varcoe, & Huebner Fridrich, 1993). The results of these studies clearly indicate that relationship between actual money owned or earned and its perception does exist, but definitely is not perfect. For example, the correlation between income level and income satisfaction in Europe varies as assessed by European Social Survey varied from barely .28 to .52. Likewise, results from the General Social Survey reveal this correlation to be no greater than .40 in the USA.

This data would be puzzling if we did not take into consideration that psychological factors might influence people's perception of their wealth. In other words, some people are happy with the money they earn, even if they are not very rich, some people have a lot of money, but they are still not satisfied with it. This may be due to their different consumption values and habits, different needs and wants (Pravitz et al., 2006), different aspiration levels (Diener, Diener & Diener, 1995), or different social comparison processes (Clark & Oswald, 1996). However,

understanding the factors influencing subjective wealth is very important, as financial satisfaction seems to be a better predictor of psychological well-being than objective level of income (Mills, Grasmick, Morgan, & Wenk, 1992). For that reason, the main purpose of this paper is to examine attitudes people hold toward money as a psychological factor that might influence the subjective perception of objective wealth measured as income. I propose a model of the relationship between income and financial satisfaction that includes two second-order dimensions of money attitudes: belief in symbolic nature of money as a mediator and instrumental disposition to money management as a moderator. I will attempt to show that considering these psychological variables enhances our understanding of why the relationship between objective and subjective wealth is imperfect.

The current article focuses especially on how instrumental and affective aspects of money contribute to subjective assessment of one's financial situation. The proposed model offers insight into the relationship between objective and subjective indicators of wealth beyond the existing theories and recently published studies (Gasiorowska, 2014b; Tang, Luna-Arocas, Sutarso, 2005; Tang, Luna-Arocas, Sutarso, & Tang, 2004; Tang, Tang, & Homaiifar, 2006; Wilhelm et al., 1993). It provides a novel treatment of the effects of money attitudes, by decomposing it

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in two independent second-order dimensions, one measuring the instrumental dimension of money management, and second capturing the affective dimension of assigning the symbolic meaning to money. It shows that instrumental dimension of money attitudes serves as a moderator, while the affective factor is a mediator of income-satisfaction relationship. Finally, it demonstrates that considering these psychological variables enhances our understanding of why the relationship between objective and subjective wealth is imperfect.

### Objective and subjective wealth

It makes intuitive sense that the higher is the objective wealth (for example, income level), the higher would be the subjective wealth (its perception and evaluation), because both objective and subjective variables are dealing with the same domain: one's wealth. People who earn or have more money evaluate their financial situation as better, declare higher ability to make ends meet, higher financial or pay satisfaction, and lower economic strain (Joo & Grable, 2004; Mills et al., 1992; Tang et al., 2004, 2005, 2006; Pravitz et al., 2006; von Stumm, O'Creedy, & Furnham, 2012; Wilhelm et al., 1993). Even though having or earning more money does not strongly enhance happiness in economically developed societies (Diener & Biswas-Diener, 2009), the general consensus among researchers is that the satisfaction individuals derive from their wealth is a component or at least a predictor of general well-being (Joo & Grable, 2004; Mills et al., 1992). Also, it is well-documented in the literature that financial satisfaction or, more generally, subjective wealth has an impact on their economic and consumer choices, job productivity, physical and mental health, and even marital happiness (Freeman, Carlson, & Sperry, 1993; Furnham & Argyle, 1998; Garman, Leech, & Grable, 1996; O'Neill, Sorhaindo, Xiao, & Garman, 2005; Van Raij, 1981; Williams, Haldeman, & Cramer, 1996).

The concept of subjective wealth has been operationalized in many different ways, approached from both positive and negative perspectives. Most often, it has been studied as perceived economic or financial well-being (Hayhoe, Leach, & Turner, 1999; Hayhoe & Wilhelm, 1998; Hayo & Seifert, 2003; Mullis, 1992; Walson & Fitzsimmons, 1993; Wilhelm et al., 1993), financial satisfaction (Joo & Grable, 2004; Kim, 1999; Tang, Luna-Arocas, Quintanilla Pardo, & Tang, 2013), and pay satisfaction (Tang & Chiu, 2003; Tang et al., 2004, 2005, 2006), but also as personal financial wellness (Joo & Garman, 1998), perceived ability to make ends meet (von Stumm et al., 2012), and perceived income adequacy (Danes & Retting, 1993), economic strain (Mills et al., 1992), financial stress (Kim & Garman, 2003), or financial dissatisfaction (Dowling, Corney, Hoiles, 2009). Although those terms are related, they do not necessarily cover exactly the same area of interest, what in turn makes the generalization of results very difficult. Moreover, previous research has assessed subjective wealth using both single item and multiple item measures (Joo & Grable, 2004). For generalizability purposes, the current

project also employed various measures of subjective wealth: a one-item measure of subjective financial situation (Study 1), and the multi-item Subjective Economic Well-Being scale (Study 2).

### Money attitudes as mediator and moderator

#### Money attitudes

Individual differences in the meanings people attach to money, perceiving and interpreting the role of money in life, which can be a function of various factors such as age, wealth, social class, political beliefs, or personality, are reflected in the concept of attitudes toward money (Furnham & Argyle, 1998). For instance, some people regard money as a symbol of power and prestige, while others deem it the root of all evil (Tang, 1995; Yamauchi & Templer, 1982). For such people, money has a highly charged symbolic meaning, far beyond its economic functions, and their attitude toward money might be described as affective. In contrast, other people hold an instrumental/pragmatic attitude toward money—they perceive it more as an economic instrument of exchange and not necessarily as an end in itself (Gasiorowska & Helka, 2012; Zaleskiewicz, Gasiorowska, Kesebir, Luszczynska, Pyszczynski, 2013).

In the area of economic psychology and especially in recent years, a number of studies examined people's attitudes or beliefs about money. This interest is probably due to growing awareness among researchers and managers that individual differences in attitudes toward money might be important, for example, in designing motivational systems for work, as well as in understanding debt, saving and consumption behavior (Hayhoe et al., 2012; Lim, Teo, & Loo, 2003). Research has also revealed that differences in attitudes toward money influence the perception of one's income (Gasiorowska, 2014b; Tang, et al., 2004, 2005, 2006, 2013; Wilhelm et al., 1993), moderate the effects of mortality salience on the perception of money (Zaleskiewicz et al., 2013) and the effects of money priming on prosocial preferences (Gasiorowska & Helka, 2012) or self-esteem (Gasiorowska, 2014a).

The most popular scales measuring money attitudes include the *Money Attitude Scale* (MAS) by Yamauchi and Templer (1982), the *Money Beliefs and Behaviour Scale* (MBBS) by Furnham (1984) and the *Money Ethics Scale* (MES) by Tang (1995). These scales are always multifactorial, consisting of from three to eight factors. Although the specifics vary between scales and studies, the common experience is to find multiple factors relating to economic issues, like budgeting, planning, spending retention, or debts, and other factors relating to non-economic and affective aspects of money, like distrust, anxiety, power, prestige, esteem or achievements. Lea and Webley (2006, p. 170) have noted that this pattern of results suggests a distinction between the instrumental and affective aspects of money attitudes. In line with this assumption, Gasiorowska (2014a) demonstrated that six dimensions of her Money Attitudes Questionnaire could be reduced to two

orthogonal second-order factors, reflecting the perception of money in terms of economic and affective functions. More precisely, the perceived ability to budget and control, reluctance to borrow money, inclination to search for and exploit special occasions connected with earning money represent an instrumental dimension of attitude towards money, called money management. People scoring high on this dimension engage actively in the pursuit of money management, while people with low scores are somehow passive and reluctant to such activities. Furthermore, money anxiety, belief that money is a source of power and also a root of an evil reflect non-instrumental, psychologically driven, and affective dimension, called *symbolic meaning of money* (Gasiorowska, 2014a). For people scoring high on this dimension money triggers intense affect, both positive and negative, and symbolize power, status, and security but also evil and distrust, while people with low scores perceives money only through the value and functions predicted by its economic use. Therefore, two-dimensional model of money attitudes can be interpreted as an extension of the popular psychological and anthropological theories of money presenting the duality of its meanings and functions, such as the sacrum-profanum theory of money offered by Belk and Wallendorf (1990) or tool-drug metaphor developed by Lea and Webley (2006), with regard to individual differences, which is a novel approach in the world literature. These results showed that dual, economic vs. affective nature of money can be observed not only in general psychological processes, but also in attitudes towards money (Gasiorowska, 2014a).

Further research confirmed the validity of the two-dimensional model. The instrumental dimension of money attitudes significantly correlated with a number of economic behaviors (like the number of one's own accounts and cards, savings, indebtedness or managing the household budget), while its correlations with the psychological traits and the indicators of the emotional valuation of money were very weak. The affective dimension of money attitudes was correlated with neuroticism, anxiety, the external locus of control, low self-esteem as well as dissatisfaction with one's income and positive implicit attitude towards money, and did not correlate with economic behaviors (Gasiorowska, 2014a). Moreover, the affective (but not instrumental) dimension of money attitudes moderated the impact of money priming on self-focus, self-esteem and existential fear (Gasiorowska, 2014a). These findings provide further support for the notion that the instrumental dimension is related to money management, revealing a perception of money in line with its economic functions, whereas the affective dimension reflects psychologically driven attitude and the fact that money has a value an emotional charge that are not predicted by its economic use.

Recently, Tang and his colleagues (e.g. Tang et al. 2004, 2005, 2006) used multiple regression and structural equation modeling to examine whether money attitudes operationalized as love of money mediated and moderated the income-pay satisfaction relationship. However, they did not treat this as competing models nor concluded explicitly if the mediation or moderation model

was better. Whereas some variables are more likely to be moderators than mediators (e.g., gender), some variables could serve either function, depending on the conceptual model under investigation. Mediation and moderation by the same variable cannot be tested in the same analysis (Hayes, 2013) but they can be tested in competing models, leading to a conclusion in favor of one or another. In the case of Tang's research, it is very probable that some first-order money attitude factors incorporated in the love of money would serve as better mediators, whereas others would be better moderators of the income-pay satisfaction relationship. However, examining just one second-order factor combining various aspects of the attitude towards money does not allow for thorough insight to these effects, producing the impression that the love of money is both a mediator and a moderator. In line with this, I believe that using separate factors incorporating only affective or only instrumental dimensions money attitudes and not just one second-order factor combining both instrumental and emotional facets of money attitudes would do a better job in explaining the objective-subjective wealth relationship. Also, following recent advances on this topic (Gasiorowska, 2014b) I posit that affective and instrumental dimensions of money attitudes would affect the objective-subjective wealth relationship differently, with the former serving as a mediator, and the latter as a moderator.

#### Symbolic meaning of money as mediator

In the current work, the symbolic meaning of money (affective dimension of money attitudes) is posited as a mediator of the relationship between income and financial satisfaction (i.e., income → symbolic meaning of money → financial satisfaction). Below the nature of the links from income to the symbolic nature of money, and from the symbolic nature of money to financial satisfaction are elaborated on in greater detail.

Low-income individuals may believe that having more money would solve their problems, both financial, but also personal, like low self-esteem, poor social relations, or increase low level of happiness. For example, Hayhoe et al. (2012) found that Americans with a lower net worth (debt level subtracted from asset level) reported a stronger need to get the most for the money they spend and were nervous or worried about not having enough money compared with those with greater assets. Other researchers have indicated that students who have experienced financial hardship were more obsessed with money as a source of power than those who have not experienced financial hardship (Lim et al., 2003). Similarly, Chinese from Hong-Kong with low-income have declared higher level of the love of money when compared with those with high income (Tang & Chiu, 2003). Money anxiety, perception of money as a source of power and money obsession are incorporated into the symbolic meaning of money as an affective dimension of money attitudes (Gasiorowska, 2014a). For that reason I expect that level of income will have a significant and negative influence on the participants' scores on symbolic meaning of money.

Several studies point to a link between money attitudes and perceived satisfaction with personal money. Recent work by Furnham and his colleagues found that participants who associated money with freedom, power, success and influence declared they struggled more with the money they had (von Stumm et al., 2012) and had higher standards in terms of the income they needed to be rich (Furnham, Wilson, & Telford, 2012). In a sample of young Australian workers, Dowling et al. (2009) found that using money as a standard for evaluating success and experiencing anxiety when it comes to money issues increased the probability of suffering from financial problems, which in turn decreased financial satisfaction. Tang and Chiu (2003) found negative relations between the love of money and pay satisfaction among Chinese from Hong-Kong. Wilhelm et al. (1993) demonstrated that money attitudes were significant contributors in predicting subjective wealth: participants who were free from associating guilt when spending money and believed that money could be used to feel good was also declared higher money satisfaction. They claimed also that they failed to show the mediating effect of money attitudes, but this was due to the fact that they expect a full mediation. However, it is obvious that the subjective wealth is primarily the direct result of objective wealth, so the mediation effect could be only partial. Such a partial mediation was postulated by Gasiorowska (2014b), who examined wealth and money attitudes in a representative sample of Polish adults. She found that lower objective wealth led to perception of money as an indicator of power as well as a source of evil and also to a higher level of money anxiety, what in turn led to lower assessment of financial situation, perception of income as inadequate to fulfill needs, and feeling of difficulty in making ends meet.

To conclude, individuals with low income are inclined to belief that money has a value and affective charge far beyond its economic functions, and in turn tend to be less satisfied with their finances. For that reason, I predict that assigning symbolic meaning to money will not only depend on one's income, but also will have a significant impact on financial satisfaction. I posit that affective dimension of money attitudes is a mediator of the examined relationship.

*H1: Symbolic meaning of money will partially mediate the relationship between income and financial satisfaction.*

### Money management as a moderator

The money management literature consistently shows that individuals who successfully manage their money report more financial satisfaction and less financial stress (e.g. Dowling et al., 2009; Joo & Grable, 2004). Moreover, individuals who concentrate on saving and planning seem to struggle less with the money they have (von Stumm et al., 2012) and have lower standards in terms of the income they need to be rich (Furnham et al., 2012). These results suggest that the tendency and ability to manage own finances might have a significant impact on subjective wealth. The relation between objective and subjective wealth and this dimension

of money attitudes seems to be more complicated, however. There is clear evidence that people who engage in active money management are more conscientious and scrupulous (Shafer, 2000; Gasiorowska, 2014a) than those who do not. Also, they are financially responsible, good at monitoring their finances (e.g., at estimating the amount they have in their pockets or in their bank accounts), and have better financial literacy (Sohn, Joo, Grable, Lee, & Kim, 2012). Individuals who are concentrated on money management may pay more attention to and more carefully monitor their money and possessions as well as their expenditures and financial obligations than low-control individuals. Therefore people scoring high on the instrumental dimension of money attitudes should evaluate their financial situation on the basis of real premises (that is, on the basis of their income) to a higher degree than people scoring low on this dimension.

The moderating impact of money management on the relationship between income and financial satisfaction has also been suggested by the results of aforementioned study by Gasiorowska (2014b). It demonstrated that perceived financial control led to a more accurate perception of one's financial reality, resulting in a stronger correlation between one's objective and subjective wealth for high- than for low-controls. Moreover, ability to control, plan and budget seems to be the core component of money management. For that reason, I predict that the relation between income and financial satisfaction changes as a function of instrumental dimension of money attitudes as a moderator:

*H2: Money management will moderate the relationship between income and financial satisfaction. The relationship between income and financial satisfaction will be stronger for high-managing individuals than for low-managing individuals.*

## STUDY 1

The aim of Study 1 was to provide preliminary data on the relation between objective and subjective wealth and money attitudes. Objective wealth was measured as respondent's monthly net income, and subjective wealth was measured with a single-item assessment of financial situation. The main goal of the study was to provide a preliminary test of the research hypotheses. I wanted to check if affective and instrumental dimensions of money attitudes influence the link between income and assessment of financial situation, with the former serving as a mediator (H1), and the latter – as a moderator (H2) of this relation.

### Method

#### Participants

The data were collected from 536 working participants. As 48 of them did not provide information on their income, they were excluded from the analysis. The final sample consisted of 488 participants (304 women) aged 18 or older. The average age was 33.87 years ( $SD = 9.50$ ). Compared with the general Polish population,

in this research sample the elderly were underrepresented whereas the number of people under the age of 40 was overrepresented. Even though this sample was not representative for the whole population in terms of age, it seemed representative for the population of Polish Internet users.

### Procedure

The data were collected by means of a Computer-Assisted Web Interview system (CAWI). To ensure anonymity and increase the rate of answers concerning income level, participants were not asked to provide any personal or demographic information besides gender and age. Participants were recruited with a snowball method via electronic communication (e-mail, forums, groups). Participation in the study was voluntary and was not rewarded. All study materials were in the Polish language.

Two facets of money attitudes were measured with the short form of Money Attitudes Questionnaire (MAQ-25, Gasiorowska, 2013). It consists of 25 items to which participants respond on a 5-point Likert scale. The questionnaire assesses six first-order dimensions of attitudes toward money: (1) *Financial control*, (2) *Power*, (3) *Money anxiety*, (4) *Debt aversion*, (5) *Occasion-seeking*, and (6) *Root of evil*. *Financial control* together with *debt*

*aversion* and *occasion seeking* dimensions represent an instrumental dimension attitude towards money, and form a *money management* second-order factor, while *money anxiety* together with *power* and *root of evil* dimensions reflect psychologically driven and emotional attitudes, and form a *symbolic meaning of money* facet of money attitude (Gasiorowska, 2014a).

After filling in the MAQ-25, participants answered two questions concerning their income and current financial situation. Subjective financial situation was assessed on a scale from one to five, with 1 = *very bad* and 5 = *very good*. Information about monthly net income was collected using the following categories: from 0 PLN to 1,000 PLN (coded as 1), 1,001-2,000 PLN, 2,001-3,000 PLN, 3,001-4,000 PLN, 4,001-5,000 PLN, above 5,000 PLN (coded as 6)<sup>1</sup>.

### Results

The means, standard deviations, and correlations between measured variables are presented in Table 1. The level of participants' monthly income, indicating their objective wealth, was only modestly correlated with the assessment of their financial situation. Assigning the symbolic meaning to money was negatively correlated with both income and financial satisfaction, while money management did correlated with any indicator of wealth.

**Table 1. Descriptive statistics for variables used in Study 1**

Variables	<i>M</i>	<i>SD</i>	2	3	4
1. Income	3.07	1.58	.42**	-.19**	-.03
2. Financial situation	3.28	0.76		-.28**	-.07
3. Symbolic meaning of money	32.86	5.92			.21**
4. Money management	44.69	6.22			

Note. *n* = 488. Income coded in categories: 1 = 0-1,000 PLN; 2 = 1,001-2,000 PLN; 3 = 2,001-3,000 PLN; 4 = 3,001-4,000 PLN; 5 = 4,001-5,000 PLN; 6 = above 5,000 PLN; \*\* *p* < .01

**Table 2. Results of the hierarchical regression on assessment of financial situation (Study 1) (standardized errors in parentheses)**

Variable name	Step 1	Step 2	Step 3
Personal income	0.42*** (0.04)	0.38*** (0.04)	0.38*** (0.04)
Symbolic meaning of money		-0.24 *** (0.04)	-0.23*** (0.04)
Money management		0.13*** (0.04)	0.13** (0.04)
Symbolic meaning of money x personal income			-0.03 (0.04)
Money management x personal income			0.13** (0.04)
Model <i>R</i> <sup>2</sup>	.18***	.23***	.25***
$\Delta R^2$		.06***	.02**

Note. \*\* *p* < .01; \*\*\* *p* < .001

<sup>1</sup> Average monthly net income in 2012 in Poland—during the time when data were collected—was around 2,650 PLN (660.2 Euro), and Euro/PLN exchange rate was 1:4.

To provide a preliminary verification of the research hypotheses, I conducted a hierarchical regression analysis to verify the relation between income, financial situation and two dimensions of money attitudes. Self-reported income, money attitudes dimensions and the products of money attitudes and income interaction were entered in Steps 1, 2 and 3, respectively (Table 2). All variables were standardized to z-scores before analysis.

Step 1 showed that net income explained about 17.7% of the variance in the dependent variable,  $F(1, 486) = 104.64, p < .001$ , supporting the notion that income is related to subjective evaluation of financial situation. Adding money attitudes in Step 2 substantially improved prediction, increasing the total explained variance by 5.7%,  $F(2, 484) = 18.07, p < .001$ . Scores on both facets of money attitudes significantly predicted the assessment of financial situation after controlling for income. In Step 3, interactions between two money attitudes dimensions and income were added to the model, increasing explained variance by 1.5%,  $F(2, 482) = 4.92, p < .01$ . As Table 2 shows, money management as the instrumental dimension of attitude towards money was the only significant moderator of the relationship between income and its evaluation. The interactional effect was not present for the affective facet of money attitudes.

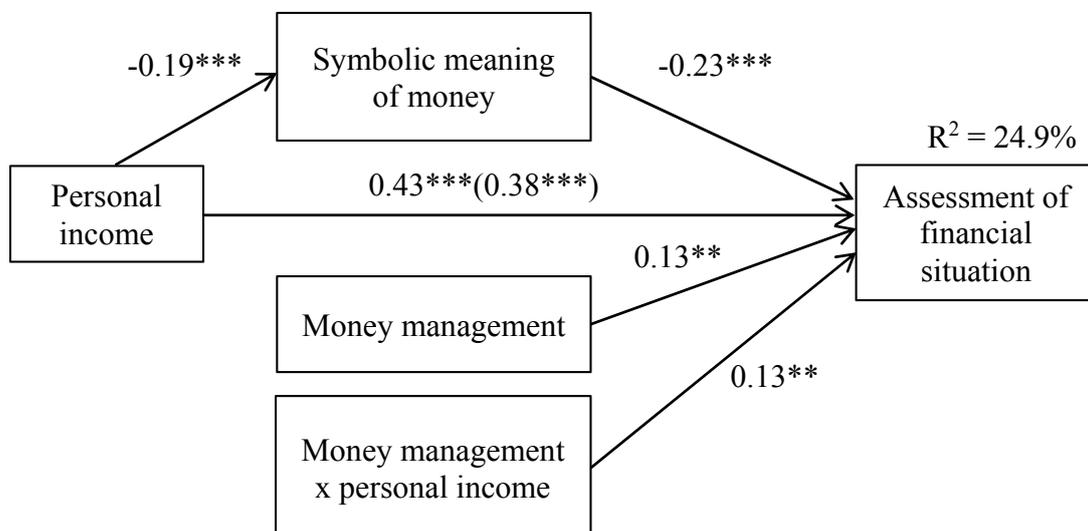
In the next step, direct, indirect and conditional effects in a hypothesized model of the objective-subjective wealth relationship including one mediator (symbolic meaning of money) and one moderator (money management) presented on Figure 1 were assessed using the PROCESS macro (Hayes, 2013). The overall model presented on Figure 1 explained  $R^2 = 24.9\%$  of the variance in the dependent variable,  $F(4, 483) = 40.04, p < .001$ . As expected, higher income corresponded to significantly lower tendency to ascribe symbolic meaning to money ( $b = -0.19, se = 0.04, t = -4.35, p < .001$ ), and the effect of affective dimension of money attitudes on assessment of financial

situation was negative and significant ( $b = -0.23, se = .04, t = -5.53, p < .001$ ), suggesting potential mediation. The interaction between money management and income was a predictor of subjective financial situation, as the  $R^2$  increase due to interaction was significant,  $\Delta R^2 = 1.81\%, F(1, 484) = 10.96, p = 0.001$ . In line with hypothesis H2, it suggested that the tendency to manage one's finances moderated the relationship between income and its subjective evaluation.

**Mediation by symbolic meaning of money.** To analyze the direct and indirect effects in a model depicted in Figure 1 and test for a possible mediation effect, I used sampling with replacement, with a bias-corrected bootstrapping procedure (10,000 samples). The total effect of income on its subjective evaluation was significant (effect = 0.43,  $se = 0.04, t = 10.52, p < .001$ ), such that higher income led to better assessment of one's financial situation. The direct effect of income on its subjective evaluation (controlling for the indirect effects through belief in symbolic nature of money) was weaker, but still significant (effect = 0.38,  $se = 0.04, t = 9.56, p < .001$ ), indicating that part of this effect was indirect. The 95% bootstrapped confidence interval for the indirect effect of symbolic meaning of money did not include zero, 95% CI [0.02, 0.07], effect = 0.04, boot  $se = 0.01$ , indicating assigning the symbolic meaning to money was a significant mediator, and confirmed hypothesis H1.

**Moderation by money management.** To investigate the nature of the moderation effect, two types of conditional effect (simple slopes) analysis were performed. First, the relationship between IV (income) and DV (assessment of financial situation), controlling for symbolic meaning of money, was investigated at three levels of the moderator: mean, 1  $SD$  above and 1  $SD$  below mean (see Figure 2A). The weakest association appeared at the lowest level of money management ( $b = 0.26, se = 0.06$ ); medium association at the moderate level ( $b = 0.38, se = 0.04$ ) and the strongest at the highest level of moderator ( $b = 0.43, se = 0.04, t = 10.52, p < .001$ ).

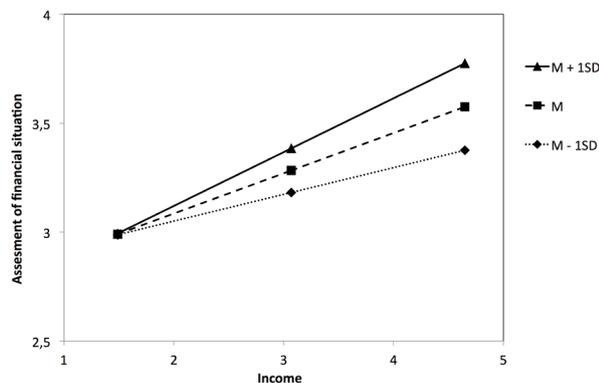
**Figure 1. Symbolic meaning of money as a mediator and money management as a moderator of relationship between personal income and assessment of financial situation (standardized coefficients).**



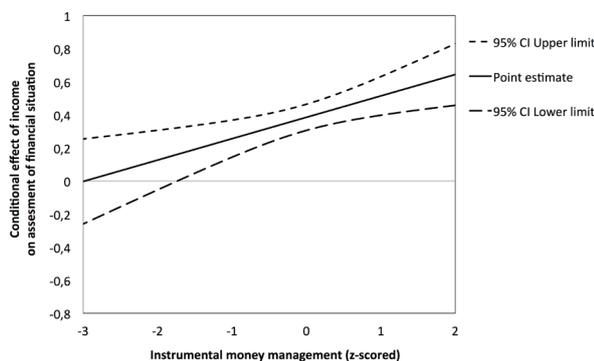
= 0.51,  $se = 0.06$ ), all  $ps < .001$ . However, the pick-a-point approach is considered controversial due to arbitrariness of choosing points ( $M \pm 1SD$ ) for a traditional simple slopes analysis (Hayes, 2013). Thus, in a second conditional effect analysis, I used the Johnson–Neyman technique for probing significant interactions (Hayes, 2013; Preacher, Rucker, & Hayes, 2007). In this technique, “regions of significance” are mathematically derived over the full spectrum of the moderator values for which the relationship between predictor and DV is significant. If the confidence interval for the point estimate of the conditional effect does not contain zero, predictor and dependent variable are regarded as significantly related.

**Figure 2.**

**(A) Assessment of financial situation as a function of income and money management. Lines represent groups of participants scoring low, moderate, and high on the money management and are based on mean value and  $\pm 1SD$  from this mean value.**



**(B) Johnson–Neyman regions of significance for the conditional effect of income on subjective evaluation of financial situation at z-scored values of money management.**



The visualization of Johnson–Neyman regions of significance is presented on Figure 2B: solid line plots represent the conditional effect estimates of income on financial situation, while dashed lines represent the 95% upper and lower bounds of the confidence interval. The relationship between income and assessment of financial situation is not significant when z-score on money

management is below  $-1.73$  (raw score below 33.92). Such a result demonstrated that for individuals with low engagement in money management the relationship between income and its subjective evaluation became insignificant. In other words, they did not take their income into account while assessing their financial situation. The higher was one’s tendency to manage own finances, the stronger was the conditional effect of income on its subjective evaluation. The instrumental dimension of money attitudes thus moderated the relationship between income and assessment of financial situation as an indicator of subjective wealth, and H2 was supported.

## STUDY 2

The results of Study 1 provided evidence that two dimensions of money attitudes affected the relation between income and assessment of financial situation. More precisely, in line with the research hypotheses, this relationship was moderated by money management and partially mediated by symbolic meaning of money. One shortcoming of this first study, however, was that level of objective wealth was measured as just the participant’s income, whereas the financial standing of a household depends rather on the incomes of all its members. Second issue might be that only a single item reflecting assessment of financial situation measured the dependent variable. In order to address these shortcomings, I conducted a second study, using different measures of wealth variables. Objective wealth was operationalized as household income, whereas subjective wealth was measured with the Subjective Economic Well-Being questionnaire adapted from Wilhelm et al. (1993). Money attitudes were again assessed with the Money Attitudes Questionnaire (Gasiorowska, 2013). The aim of Study 2, as in Study 1, was to seek support for the hypothesis that belief in symbolic meaning of money was a mediator (H1) and money management was a moderator (H2) of the relationship between income and financial satisfaction.

## Method

### Participants

The data were collected from 452 working participants. As 96 of them did not provide information on either their own or household income, they were excluded from the analysis. The final sample consisted of 356 participants (187 women). The average age was 29.42 years ( $SD = 8.98$ ). As in Study 1, compared with the general Polish population, the elderly was underrepresented and people below the age of 30 were overrepresented in the current sample.

### Procedure

The data were collected via the paper-and-pencil method in the presence of the researcher. All participants were recruited from among the employees and working students of two universities in Wrocław, Poland. They

were asked to participate in a consumer study, and after they agreed, they received a self-administered paper-and-pencil questionnaire. As in the previous study, participants were not asked to provide any personal or demographic information besides gender and age to ensure anonymity and increase response rates for income-related questions. All study materials were in the Polish language. Participation in the study was voluntary and was not rewarded.

Money attitudes were measured with Money Attitudes Questionnaire as in Study 1. After filling in the MAQ-25, participants were asked to estimate the average monthly income of their household in an open-ended question. Finally, participants completed a Subjective Economic Well-Being questionnaire adapted from Wilhelm et al. (1993). The scale consisted of 23 items assessed on a five-point Likert scale, measuring satisfaction derived from own income, from things that one can afford to buy, from feelings of financial security, and from overall wealth. Some sample items are: 'I am satisfied with my earnings', 'Generally speaking, I am an affluent person', 'I own many valuables', 'I can cope with unexpected expenses' or 'I cannot afford many things I would like to have' (reversed scored).

## Results

The means, standard deviations, and correlations between measured variables are presented in Table 3. The level of participants' households' income was only modestly correlated with subjective economic well-being. Assigning the symbolic meaning to money correlated significantly with both objective and subjective indicators of wealth, and thus could potentially mediate the relationship between independent and dependent variable. Similarly to Study 1, the approach to money management did not correlate with income, and its correlation with subjective economic well-being was very weak.

As in Study 1, I verified the relation between income, financial satisfaction and two dimensions of money attitudes with a hierarchical regression analysis. Household income, money attitudes dimensions and the products of money attitudes and income interaction were entered in Steps 1, 2 and 3, respectively (Table 4). All variables were standardized to z-scores before analysis.

Step 1 showed that household income explained about 10% of the variance in the dependent variable,  $F(1, 354) = 39.5, p < .001$ , again supporting the notion that objective wealth is related to its subjective evaluation. Adding money attitudes in Step 2 substantially improved prediction, increasing the total explained variance by 15%,

**Table 3. Descriptive statistics for variables used in Study 2**

Variables	<i>M</i>	<i>SD</i>	2	3	4
1. Household income	6.38	6.21	.32***	-.18**	.02
2. Subjective Economic Well-Being	71.66	18.77		-.35***	.18**
3. Symbolic meaning of money	30.77	5.56			.21***
4. Money management	42.24	6.37			

Note.  $n = 356$ . Household income and income per capita expressed in 1000 PLN units.

\*\*  $p < .01$ ; \*\*\*  $p < .001$

**Table 4. Results of the hierarchical regression on subjective economic well-being (Study 2) (standardized coefficients, standardized errors in parentheses)**

Variable name	Step 1	Step 2	Step 3
Personal income	0.32*** (0.05)	0.25*** (0.05)	0.32*** (0.05)
Symbolic meaning of money		-0.36*** (0.05)	-0.35*** (0.05)
Money management		0.25*** (0.05)	0.24** (0.05)
Symbolic meaning of money x personal income			0.06 (0.04)
Money management x personal income			0.15** (0.05)
Model $R^2$	.10***	.25***	.28***
$\Delta R^2$		.15***	.03**

Note. \*\*  $p < .01$ ; \*\*\*  $p < .001$

$F(2, 352) = 35.27, p < .001$ . Scores on both facets of money attitudes significantly predicted the subjective economic well-being after controlling for household income. In Step 3, interactions between two money attitudes dimensions and income were added to the model, increasing explained variance by 2.7%,  $F(2, 350) = 6.66, p < .001$ . As shown in Table 4, money management was the only significant moderator of the relationship between income and financial satisfaction. The interactional effect was not present for the affective dimension of money attitudes.

In the next step, direct, indirect and conditional effects in a hypothesized model presented on Figure 1 were assessed using the PROCESS macro (Hayes, 2013). The overall model presented on Figure 3 explained  $R^2 = 26.04\%$  of the variance in the dependent variable,  $F(4, 351) = 30.89, p < .001$ .

Financial satisfaction was positively and directly influenced by household income. Moreover, household income also had an indirect impact on subjective economic well-being. Lower income corresponded to assigning symbolic meaning to money ( $b = -0.17, se = 0.05, t = -3.34, p < .001$ ), and in turn, assigning symbolic meaning to money significantly predicted lower subjective economic well-being ( $b = -0.36, se = .05, t = -7.6, p < .001$ ), which suggested a possible mediation effect and provided preliminary support for hypothesis H1. The significant impact of interaction between income and money management on subjective financial situation provided support for the notion that the instrumental dimension of attitude towards money moderated the objective-subjective wealth relationship (H2).

**Mediation by symbolic meaning of money.** To analyze the direct and indirect effects in a model depicted in Figure 2, I again used sampling with replacement, with a bias-corrected bootstrapping procedure (10,000 samples). The total effect of household income on financial satisfaction

was significant (effect = 0.31,  $se = 0.05, t = 6.2, p < .001$ ), such that higher household income led to higher subjective economic well-being. The direct effect of income on its subjective evaluation (controlling for the indirect effects through symbolic meaning of money) was weaker, but still significant (effect = 0.24,  $se = 0.05, t = 5.17, p < .001$ ), indicating that part of the total effect was indirect. The 95% bootstrapped confidence interval for the indirect effect of symbolic meaning of money did not include zero, 95% CI [0.03, 0.11], effect = 0.06, boot  $se = 0.02$ , indicating that assigning the symbolic meaning to money was a significant mediator, and confirmed hypothesis H1.

**Moderation by money management.** The interaction between money management and household income was a significant predictor of subjective economic well-being, as the  $R^2$  increase due to interaction was significant,  $\Delta R^2 = 0.98\%, F(1, 484) = 4.66, p = 0.03$ . As hypothesized, the tendency to manage one's finances in was a significant moderator of the relationship between income and its subjective evaluation. To investigate the nature of this effect, as in Study 1, two types of conditional effect analysis were performed. First, the relationship between household income and SEWB, controlling for symbolic meaning of money, was investigated at three levels of the moderator: mean, 1 *SD* above and 1 *SD* below mean (see figure 4A). The weakest association appeared at the lowest level of money management ( $b = 0.15, se = 0.06, p = .02$ ); medium association at the moderate level ( $b = 0.24, se = 0.05, p < .001$ ) and the strongest at the highest level of moderator ( $b = 0.33, se = 0.06, p < .001$ ).

Further analysis with the Johnson–Neyman technique described earlier demonstrated the lower bound of the 95% CI reaches zero at the standardized moderator value of  $-1.14$  (see Figure 4B). For individuals with scores on money management dimension lower than 1.14 standard deviation below the mean (raw scores lower than 35.01), the

Figure 3. Symbolic meaning of money as a mediator and money management as a moderator of the relationship between household income and subjective economic well-being (standardized coefficients)

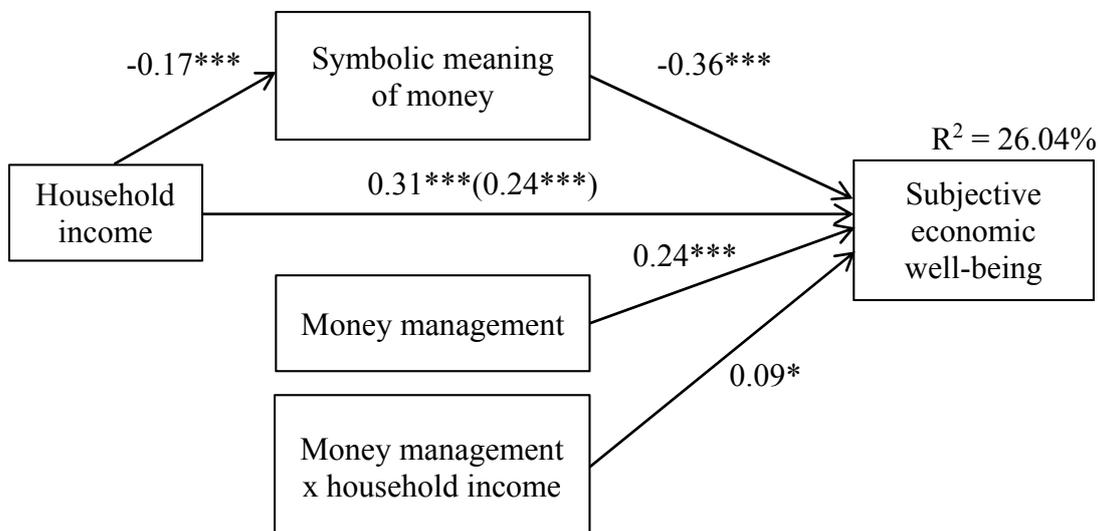
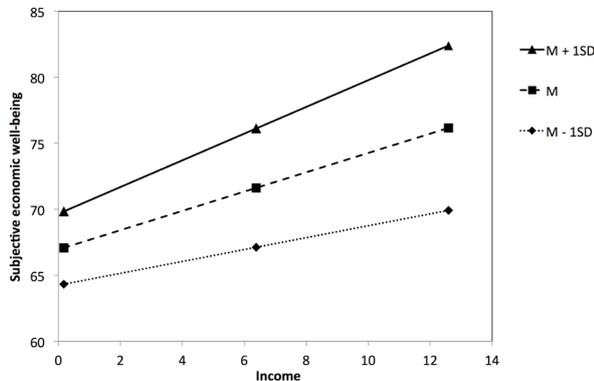
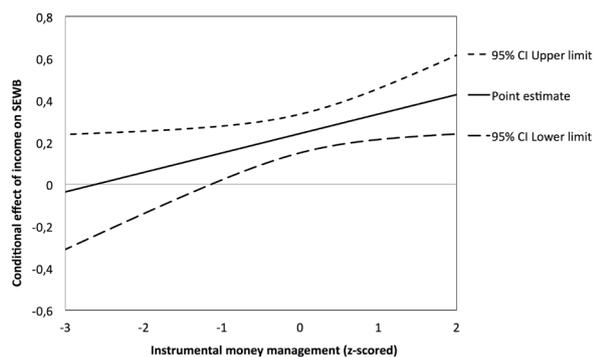


Figure 4.

**(A) Subjective economic well-being as a function of household income and money management. Lines represent groups of participants scoring low, moderate, and high on the money management and are based on mean value and  $\pm 1$  SD from this mean value.**



**(B) Johnson–Neyman regions of significance for the conditional effect of household income on subjective economic well-being at z-scored values of money management.**



relationship between household income and SEWB became insignificant. The higher was one's tendency to engage in money management, the stronger was the conditional effect of income on subjective economic well-being. The instrumental dimension of money attitudes again moderated the relationship between income and financial satisfaction, and H2 was supported.

## Discussion

The aim of the two studies presented in this paper was to investigate the impact of money attitudes on the relation between income and financial satisfaction. I measured participants' income in Study 1 and household income in Study 2, and evaluated financial satisfaction with a single item measure of financial situation (Study 1) or multi-item subjective economic well-being scale (Study 2). In line with previous research (Gasiorowska, 2014b; Joo & Grable, 2004; Tang et al., 2004, 2005, 2006; Wilhelm et al., 1993), income had significant but modest impact on its subjective perceptions. More importantly, the results presented in this

article shed some light on the effect of attitudes towards money on the relationship between objective and subjective indicators of wealth. This work contributes significantly to money attitudes research, in that it is the first attempt to test the mediating effect of symbolic meaning of money and the moderating effect of money management on the relation between objective and subjective measures of wealth.

In line with my hypotheses, assigning the symbolic meaning to money partially mediated the relation between income and subjective wealth. This effect was not strong, but significant in both studies. The lower people's income was, the more symbolic meaning they ascribed to money: the stronger they perceived money as a source of power and success, but also as a source of evil and anxiety. This in turn led to lower financial satisfaction. Research on the psychological meaning of money suggests that even mere reminders of money can increase self-esteem and reduce anxiety (Gasiorowska, 2014a; Zaleskiewicz et al. 2013). Moreover, high income might be a clear signal of an individual's competency so that high pay might increase an assessment of personal adequacy and worthiness as an organizational member (Gardner, Van Dyne, & Pierce, 2004), but also enhance global self-esteem (Goldsmith, Veum, & Darity, 1997). As assigning the symbolic meaning to money correlates negatively with self-esteem and positively with anxiety (Gasiorowska, 2014a), high income might lead to lower level of belief in symbolic meaning of money via its symbolic power related to self-enhancement, self-sufficiency (Vohs, Mead, & Goode, 2006) and anxiety buffering (Furnham et al., 2012; Zaleskiewicz et al., 2013). However, as self-esteem was not controlled in this study, I cannot say to which extend the meditational effect of the tendency to assign symbolic meaning to money is unique, and to which extend it is due to the relation between money and self-esteem.

The impact of symbolic meaning of money on financial satisfaction might be connected with materialistic traits or values often endorsed by those who are low in self-esteem, neurotic and anxious (Chaplin & John, 2007; Shafer, 2000), and who ascribe affective connotation to money (Tang et al., 2013). Materialistic people experience substantial discrepancies between what they have and what they would like to have and might think they do not have enough money to fulfill their desires, no matter how much they earn (Solberg, Diener, Wirtz, Lucas, & Oishi, 2002). They might be unable to fully satisfy their desire for possessions, hence have perceptions of inadequate income and higher level of financial worry (Gardarsdottir & Dittmar, 2012). As a result, they should be less satisfied with the wealth they have. High-materialistic people place a greater emphasis on financial security than low-materialists do, are more prone to making social comparisons concerning their wealth, believe that they need more income to satisfy their needs (Richins, 1994; Richins & Dawson, 1992), are envious and more prone to social comparisons concerning their wealth (Belk, 1985). Those who experience lower self-esteem and at the same time earn less than others might believe that having more money and buying more things would soothe their problems, both financial and personal,

and for that reason develop a belief in symbolic meaning of money, highly related to material values. In turn, those who believe that money is ruling the world would never feel rich enough (Tang et al., 2013). For that reason, symbolic meaning of money partially mediates the relationship between objective and subjective wealth.

The second important contribution of this paper is that the money management moderated the relationship between income and financial satisfaction. Most probably, higher engagement in money management led to a more accurate perception of one's money reality, resulting in a stronger correlation between one's objective and subjective wealth for high- than for low-managers. Individuals with the same financial resources may have different perceptions of these resources and their financial needs, depending on their perceived ability to budget and control, reluctance to borrow money, and inclination to search for and exploit special occasions connected with earning money. People who are good at these activities and engage in active money management might assess their resources more objectively than subjectively, predicting effectively if they are able to achieve their goals, adjusting their standard of living to match their resources, and therefore feeling more satisfied with their financial status. In contrast, those who do not care about managing their finances might not evaluate their financial situation on the basis of objective premises, and for that reason may underestimate or overestimate their financial standing. It seems that these results provide useful information for financial advisors and educators who develop programs to help individuals and families to improve their satisfaction with their financial situation. Financial counselors and educators should emphasize and clarify especially the importance of instrumental money management in the perception of the adequacy of financial resources, and in the satisfaction with one's financial status. Clients should be encouraged to learn methods and skills that would increase their financial abilities to plan, budget, control and manage their money.

While the findings presented in this paper provide further insight as to how individual differences in money attitudes affect the relationship between objective and subjective wealth, there are some limitations inherent to the studies presented. First, respondents' current income may be an inadequate measure of objective wealth, as it does not necessarily represent all economic resources that contribute to a sense of financial satisfaction. For that reason, current family income was included as indicator of respondents' objective wealth in Study 2. However, money income is not the only method of obtaining goods and services. People might receive goods from social assistance or live on welfare or pension and do not consider it as an income. Thus, it would be important for future research to take into account the total value of goods and services available from all sources. Individuals' subjective economic well-being also depends on family size, their taxation levels, savings, net worth including liabilities and assets they already own (like houses, cars or mortgages), the cost-of-living in their area, their spending efficiency, gifts from others and so forth (Diener & Biswas-Diener, 2009), and these factors were not

considered in the current studies.

To summarize, this paper provides additional knowledge concerning the impact of money attitudes on the perception of own wealth. It seems that it is necessary to examine the instrumental and affective facets of money attitudes separately, as their impact on the relation between objective and subjective indicators of wealth varies. Still, more research is needed to replicate findings presented in this paper in different samples and cultures and with different measures of wealth and money attitudes to enhance our understanding of the psychology of money.

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