MONEY ATTITUDE AND CONSCIENTIOUSNESS INFLUENCE MENTAL BUDGETING: A COMPARATIVE STUDY BETWEEN INDONESIA AND CHINA

Honey Wahyuni Sugiharto ELGEKA 1, 2, Jianhong MA 1, L. Verina Halim SECAPRAMANA 1, and Ananta YUDIARSO 2

1 Zhejiang University, China
2 University Surabaya, Indonesia

The aim of this research is to obtain our knowledge about the impact of money attitude and conscientiousness toward mental budgeting and to understand the different perspective between Indonesia and China. The result was found that Indonesian people had the dimension of retention-time in money attitude and high conscientiousness while Chinese people had a positive impact on the dimension of power-spending, distrust, and conscientiousness. These results are examined in the purpose for all the parents to take good care of their children before they fall to the materialistic attitude, especially in the millennium era when the number of people who use e-money are raising.

Key words: mental budgeting, money attitude, conscientiousness, Indonesia, China

INTRODUCTION

Millennium era changes the way young people think, especially in spending money; it happens both in Indonesia and China. For example, the consumerism mentality was recently growing in Indonesian young generation, as indicated by the rising of consumerism and poor spending habits (Rakhmat & Tarahita, 2017). The influence came from the social media that makes Indonesian young people changed their mind to spend their money. Moreover, the alteration about how individuals use the money is also changed in Indonesia. In the middle year of 2016, individuals applied the cashless payment method, card-based-e-money (The Jakarta Post, 2016); although not everyone uses them, this system gives the big impact especially for the young generation. The same change can also be observed in China. According to Zhong (2018), in early 2010 when Singles’ Day (Nov. 11) was announced as a “shopping holidays”, cashless payment started to be used as a normal payment.

Recently, Indonesian young people have the phenomenon that the youth save money to buy concert tickets and fund their traveling expenses (Rakhmat & Tarahita, 2017). They are willing to save and keep the money for one purpose in the future. On the other hands, in China, the young generation has the tendency to pursue money for getting the

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Correspondence concerning to this article should be addressed to Jianhong Ma, Department of Psychology and Behavioral Sciences, Zhejiang University, China (e-mail: jhma@zju.edu.cn).
best for life also for a gorgeous product in taste and quality (Durvasula & Lysonski, 2010). Based the background of traditional Chinese culture, Chinese people have the concept of the ‘face’ (known as Mien-Tzu), i.e., a great social self-worth in the relational and network context; good status as a prestige (Li & Su, 2007). For example, to get the successful reputation from others, Chinese people can do consumption of luxury goods (Zipser, Chen, & Gong, 2016).

Research by Furnham (1996) found that money had a strength to initiate individual’s anxiety and unhappiness to those who had limited money. Conversely, people who had money abundantly, they thought money would have an impression and act as a symbol for status representation. Indeed, Yamauchi and Templer (1982) also stated that how individual responded to money attitude would reflect the need for achievements, acquisition, and recognition. Money attitude is a belief, mindset, and sensation toward money, which depends on the purpose, and prevalence of money (Rutherford & Devaney, 2009). In 1982, Yamauchi & Templer established the scale of money attitude that could be explained to five dimensions, i.e., power prestige, time retention, distrust, quality, and anxiety.

In addition, to understand how the young generation or millennials maintain their money, conscientiousness (orderly, responsible, dependable) from Big Five Inventory Trait is used (John & Srivastava, 1999). This is caused by conscientiousness which has the potential role in behavioral control (Conner & Abraham, 2001); it also can be explained by the acknowledgment of responsibility from adolescents to parents for how they spend money and allocate it (Beutler & Gudmunson, 2012). McCrae & Costa (1987); McCrae and John (1992) found that the individuals with a high score in conscientiousness would be more organized, careful, dependable, self-disciplined, and achievement oriented.

The concept of mental budgeting can be used to explain in the way how individuals assign and spend their economic resources (Heath & Soll, 1996; Thaler, 1999). Heath and Soll (1996) established the concept of mental budgeting; 1) When the individuals set their budget, it will have a possibility to over-consume in an object and under-consume in a further object. 2) The individuals with tracking expenses have the likelihood to be over-consumed or under-consumed. Furthermore, mental budgeting consisted of making a code, categorizing, and doing the evaluation in an individual’s financial decisions and also exploiting in keeping track of expenses in a certain account (Pompian, 2006). Another scholar, Cheema and Soman (2006) defined mental budgeting as an individual’s cognitive form of accountancy to restrain the depletion and also to keep track the expenditures. Heath and Soll (1996) believed that individuals did not only make a label of the money but also the expenses.

Indeed, whereby the individuals allocate their money into mental budgeting for personal consumption, it can be determined by trial and error. It means there is no guarantee that the budget will succeed (Heath, 1995). The most important thing to make a budget is by making the budget to be realistic. Heath, Chatterjee, and France (1995) in their research, found if an individual allocated the money based on the most convinced categories and trial for different categories by making a budget. The individuals would
realize and pay attention to the goal in the future that would let the individuals to be more concerned to consume and economize money in the future (Charupat & Deaves, 2004).

Tang and Kim (1999) stated the individuals had a tendency to arrange their budget accurately, whereby they would think clearly how to manage the money. Thaler (1999) explained that most individuals would label their money into three stages, i.e., expenditure, wealth preparation, and income separation. How the individuals set the label of their money or unidimensional resources (i.e., time, effort) will be so crucial because they can monitor their self-control effort and cognitive calculation by dividing and labeling the similar resources (Heath & Soll, 1996). Levav and McGraw (2009) found that most individuals made budgets of their money based on emotional reasons, they would feel guilty or negative when they consumed the money, not for the necessities. As like Kivetz (1999) and Kivetz and Simonson (2002), it was stated that labeling the money sometimes affected the reason-based choices, which the reasons could justify individual’s choices and mostly happened when the choices disputed with the personal value.

Therefore, the purpose of this research is to test the direct effect of money attitude and conscientiousness on mental budgeting in university students and to find out the differences of results between Indonesia and China. We have five hypotheses in this present study: (1) Chinese people have higher scores on mental budgeting than Indonesian people. (2) Chinese people have higher scores in power prestige than the counterpart. (3) Indonesian people have higher scores on conscientiousness than Chinese people. (4) Indonesia and China have the correlation in money attitude and mental budgeting. (5) Conscientiousness has the correlation with mental budgeting in Indonesia and China.

METHOD

Mental Budgeting Scale

In mental budgeting scale, the researcher will replicate the scale which was constructed by Antonides, de Groot, and Van Raaij (2011). The principal component analysis of the four items that they have can be labeled as “mental budgeting” with the Cronbach alpha values is 0.70. Mental budgeting scale was built to explain how the individual separated their expenditure categories into the budget, did the saving after spending the money and maintained the saving for the future month after spending in this month. In this scale, every answer will use a 5-point of Likert scale.

Money Attitude Scale

This research will adapt the scale from Yamauchi and Templer (1982) that consist of five 5 factors, i.e.: (a) Power-prestige. If the individual gets a high score on the power-prestige, it shows that they will feel important on searching status, competition, external recognition, and acquisitions; nevertheless, if they get a lower score, it is vice versa. (b) Retention time. The individual who gets a high score on this factor will have the process of preparation and security of money in the future purposes. (c) Distrust. At this factor, if the individual has a high score, it shows the attitude of doubt, suspicion, and hesitation about money. On the contrary, for individuals who have low scores, it is seen as believing and accepting the situation involving money. (d) Quality. The individuals who have high scores, they will trust to get the best or pay more to get the desired quality. Meanwhile, individuals with low scores are seen holding the opposite
attitude because they believe that quality is not the important thing when buying a product. (e) Anxiety. The individual who gets a high score believes that money is a source of anxiety as well as a source of protection from anxiety. Nevertheless, if you have a low score, on the contrary, it can be described as less alarming and less concerned with money. Each factor will consist of around 5–9 questions that will use a Likert-type scale on a 5-point (always to never). Based on research of Yamauchi and Templer (1982), it is shown that the value of Cronbach alpha in money attitude scale is 0.77.

**Conscientiousness Scale**

Conscientiousness Scale contained in the Big Five Inventories (BFI) Scale founded by John and Srivastava (1999), which has a reliability value of Cronbach alpha is 0.82. Conscientiousness consists of nine items, which use a 5-point Likert scale (strongly agree to strongly disagree), the detail of the scale. As research conducted by Donnelly, Iyer, and Howell (2012), it was found that conscientiousness is the most important personality traits of the BFI and can be used to predict financial management.

**Translation**

This questionnaire is translated into Bahasa (Indonesia) and Chinese (China) by using the traditional method, as like Matsumoto and Van de Vijver (2011) that explained about the procedure of translation-back-translation, which a forward translation is independently back-translated, and the later version is compared with the original. The variances in the translation were carefully investigated and also fixed to ensure the translation equivalent to the questionnaire.

**Sample**

In April and December 2017, the researcher administrated this survey among 348 students, i.e., 180 Indonesian students and 168 Chinese students; with the range of age about 18–25 years old in two universities. This survey was conducted by focusing on the money attitude and conscientiousness toward mental budgeting. To collect the sample, the researcher used the convenient sampling that meant not every student had the same chance as a respondent; the obstacle to collect the data was the researcher did not know the number of students in those two universities. This technique was fast and easy to use. However, the result seldom represented the population.

Total respondents in this research were 51.7% Indonesian students and 48.3% Chinese students; with the average age of respondents were 20 years old. Mostly, the respondents in this research were female (61.3%). The majority of respondents were junior (34.2%), with the range of respondents were from freshmen to graduate students. In the estimate of 33.3%, respondents received allowance (per month) 108.33–216.38 USD for Chinese students and 49.5–99 USD for Indonesian students. From this data, respondents spent money per month mostly similar with the allowance they got per month, 38.5% spent 108.33–216.38 USD (for Chinese students) and 49.5–99 USD (for Indonesian students). The range of allowance and spent money per month was 0–865.52 USD (for Chinese students) and 0–396 USD (for Indonesian students). Currently, 1 US Dollar (USD) is equivalent with 6.93 RMB and 15,191 Rupiah.

**RESULTS**

In the present study, we do the factor analysis on mental budgeting, money attitude, and conscientiousness before continuing to analyze another hypothesis. The factor analysis for mental budgeting items is also completed by using exploratory factor analysis with Kaiser-Meyer-Olkin (KMO) = .697 (Bartlett’s test of Sphericity significance = χ² (6) = 251.55, p < .05) with one factor dimension (Cronbach α = .687). Exploratory factor analysis done in this research is to determine the underlying dimensions or factors that exist in a set of data and whether they are interpretable in a theoretical sense. Also, exploratory factor analysis can be used to examine the inter-correlations between all variables on Antonides et al. (2011) scale.
The factor analysis on the money attitude items was completed by using exploratory factor analysis; the factorability of the 34 items of money attitude was analyzed. Several criteria for the factorability of a correlation were used; the first was the observation to 23 of the 34 items supposed to correlate at least .3 with at least one other item. The second was the KMO = .80 and Bartlett’s test of Sphericity significance = \( \chi^2(253) = 2893.29, p < .05 \) with diagonals of the anti-image correlation matrix were all over .5. The result was four factors explaining 54% of the variance. The four factors were retention-time (eigenvalues = 5.4), distrust (eigenvalues = 4.1), quality (eigenvalues = 3.1), and power spending (eigenvalues = 1.7). Exploratory factor analysis was used to verify scale construction and operationalization because our participants were from two different countries, Indonesia and China. Cronbach \( \alpha \) analysis in money attitude indicates a reliable \( \alpha \) score of .83, thus the inclusion of this factor as part of the money attitude.

The third-factor analysis is conscientiousness by exploratory factor analysis. In the observation of factor analysis found 5 items from 9 items with following all the requirements of factor analysis, which the factor loading has .3 minimum consideration level, anti-image correlation matrix diagonals > .5, and KMO > .5–.6. According to the results was KMO = .74 and Bartlett’s test of Sphericity significance = \( \chi^2(10) = 343.14, p < .05 \).

**Comparison Mental Budgeting, Money Attitude and Conscientiousness Between Indonesia and China**

In the purpose to compare between two countries (Indonesia and China) in three variables (mental budgeting, money attitude, and conscientiousness), Independent t-test analysis is used (Table 1). Mental budgeting result showed that Indonesia (\( M = 14.83, SD = 2.71 \)) has the higher score than China (\( M = 13.79, SD = 3.51, t(1,313.99) = 3.09, p < .05 \)). It means the hypothesis 1 (H1) is supported. In the money attitude result, it is found the significant differences between Indonesia and China. In this case, Indonesia (\( M = 67.11, SD = 8.98 \)) has higher score than China (\( M = 61.69, SD = 8.09, t(1,346) = 5.89, p < .05 \)). According to the dimension of money attitude, we did not find a significant difference on the dimension of quality (\( t(1,346) = .75, p = .45 \)); nevertheless, we found the differences on the dimension of distrust (\( t(1,346) = 6.12, p < .05 \), retention

| Mental Budgeting | Money Attitude | Conscientiousness |
|------------------|----------------|-------------------|
|                  | Retention-Time | Distrust | Quality | Power-Spending |                  |
|                  | M    | SD  | M    | SD  | M    | SD  | M    | SD  | M    | SD  |
| Indonesia        | 14.83| 2.71| 20.20| 4.53| 15.63| 3.72| 14.50| 3.55| 16.78| 4.72|
| China            | 13.79| 3.51| 14.82| 3.85| 13.26| 3.49| 14.20| 4.02| 19.41| 3.81|

Table 1. Comparison between mental budgeting, factors of money attitude, and conscientiousness in Indonesia and China
time ($t(1,343) = 11.97, p < .05$), and power spending ($t(1,339.16) = -5.75, p < .05$). As expected, China ($M = 19.41, SD = 3.81$) will have the higher score on the dimension of power spending than Indonesia ($M = 16.78, SD = 4.72$; Hypothesis 2). In the variable of conscientiousness, the result showed that we did not find the differences between Indonesia ($M = 19.56, SD = 3.11$) and China ($M = 18.90, SD = 3.45, t(1,346) = 1.85, p = .07$). This indicates that the hypothesis 3 (H3) is not proved.

**Correlation Analysis**

Correlation and hierarchical multiple regression analyses are conducted to analyze the relationship between money attitude, conscientiousness, and mental budgeting. Table 2 showed the correlation analysis results between Indonesia and China. As can be seen that it has a strong correlation between retention-time ($r(178) = .43, p < .01$) and conscientiousness ($r(178) = .32, p < .01$) toward mental budgeting in Indonesia. However

| Table 2. Correlation analysis between mental budgeting, factors of money attitude, and conscientiousness in Indonesia and China |
|-------------------------------------------------------------------------------------------------------------------------------|
| **Indonesia (N = 180)**                                                                                                            |
|                                                                                                                                          |
| Mental Budgeting | Retention-Time | Distrust | Quality | Power-Spending | Conscientiousness |
|------------------|----------------|----------|---------|----------------|-------------------|
| Mental Budgeting | .43**          | .11      | -.01    | -.11           | .32**             |
| Retention-Time   | .05            | .08      | -.05    | .28**          |                   |
| Distrust         | -.19*          | .32**    | -.08    |               |                   |
| Quality          | .11            |          |         | .14            |                   |
| Power-Spending    | .19*           |          |         |                |                   |
| **Conscientiousness**                                                                                                              |
|                                                                                                                                          |
| **China (N = 168)**                                                                                                                 |
|                                                                                                                                          |
| Mental Budgeting | Retention-Time | Distrust | Quality | Power-Spending | Conscientiousness |
|------------------|----------------|----------|---------|----------------|-------------------|
| Mental Budgeting | .21**          | .23**    | -.19*   | -.06           | .27**             |
| Retention-Time   | .15            | -.02     | .06     | .09            |                   |
| Distrust         | -.36*          | .35**    | -.05    |                |                   |
| Quality          | .12            |          | .08     |                |                   |
| Power-Spending    |                |          | .07     |                |                   |
| **Conscientiousness**                                                                                                              |

**p < .01, *p < .05**
Table 3. Summary of hierarchical multiple regression analysis between factors of money attitude and conscientiousness toward mental budgeting in Indonesia and China

### Indonesia (N = 180)

|              | B    | SE B | β    | t    | R²  | ΔR² | F    |
|--------------|------|------|------|------|-----|-----|------|
| **Model 1**  |      |      |      |      |     |     |      |
| Money Attitude |      |      |      |      |     |     |      |
| Retention-Time | .25  | .04  | .42  | 6.20*** | .21 | .21 | 11.72*** |
| Distrust     | .10  | .05  | .13  | 1.80  |     |     |      |
| Quality      | .00  | .05  | .00  | .04   |     |     |      |
| Power-Spending | -0.08 | .04 | -.13 | -1.86 |     |     |      |
| **Model 2**  |      |      |      |      |     |     |      |
| Money Attitude |      |      |      |      |     |     |      |
| Retention-Time | .22  | .04  | .37  | 5.32*** | .25 | .04 | 11.68*** |
| Distrust     | .10  | .05  | .13  | 1.87  |     |     |      |
| Quality      | -.20 | .05  | -.13 | -.39  |     |     |      |
| Power-Spending | -.05 | .04 | -.09 | -1.31 |     |     |      |
| Conscientiousness | .19  | .06  | .21  | 3.05**  |     |     |      |

### China (N = 168)

|              | B    | SE B | β    | t    | R²  | ΔR² | F    |
|--------------|------|------|------|------|-----|-----|------|
| **Model 1**  |      |      |      |      |     |     |      |
| Money Attitude |      |      |      |      |     |     |      |
| Retention-Time | .16  | .07  | .18  | 2.49*  | .11 | .11 | 5.22** |
| Distrust     | .23  | .05  | .23  | 2.57*  |     |     |      |
| Quality      | -.07 | .09  | -.08 | -1.01 |     |     |      |
| Power-Spending | -.13 | .08 | -.14 | -1.73 |     |     |      |
| **Model 2**  |      |      |      |      |     |     |      |
| Money Attitude |      |      |      |      |     |     |      |
| Retention-Time | .14  | .07  | .15  | 2.10*  | .19 | .08 | 7.35*** |
| Distrust     | .23  | .09  | .23  | 2.66** |     |     |      |
| Quality      | -.10 | .07  | -.11 | -1.36 |     |     |      |
| Power-Spending | -.11 | .07 | -.12 | -1.50 |     |     |      |
| Conscientiousness | .27  | .07  | .27  | 3.76*** |     |     |      |

***p < .001, **p < .01, *p < .05
result of correlation analysis in China is shown that retention-time \((r(166) = .21, p < .01)\), distrust \((r(166) = .23, p < .01)\), quality \((r(166) = -.19, p < .05)\), and conscientiousness \((r(166) = .27, p < .01)\) have the correlation with mental budgeting (Hypothesis 4 and 5 is proven).

In Indonesia and China, the factors of retention-time, distrust, quality, power spending, and conscientiousness were calculated and used to predict mental budgeting by using hierarchical multiple regression analysis (Table 3). Dimensions of money attitude were entered in model 1 and conscientiousness was entered in model 2. In model 1, Indonesia shows the results of hierarchical multiple regression where dimensions of money attitude contributed significantly to the regression model, \(F(4,175) = 11.72, p < .001\) and calculated for 21.1% of the variation in mental budgeting. Where in retention-time significantly can predict mental budgeting (\(\beta = .42, p < .001\)). Adding conscientiousness to the regression model in model 2, it was found an additional 4% of the variation in mental budgeting and this change in \(R^2\) was significant \(F(5,174) = 11.68 p < .001\). Besides that, China in the model 1 shows that dimensions of money attitude explained 11.4% of the variation in mental budgeting and this change in \(R^2\) was significant, \(F(4,163) = 5.22, p < .01\). Where in retention-time \(\beta = .18 p < .05\) and distrust \(\beta = .23, p < .05\) have the significant result to predict mental budgeting. Moreover, in model 2, conscientiousness in the regression model explained an incremental 7.1% of the variation in mental budgeting and this change in \(R^2\) was significant, \(F(5,162) = 7.35, p < .001\).

**DISCUSSION**

The present research is to examine the relationship between money attitude, conscientiousness, and mental budgeting, and to find the differences between money attitude, conscientiousness, and mental budgeting in Indonesia - China. First of all, this research uses the concept of money attitude by Yamauchi and Templer (1982) that builds the five dimensions of money attitude scale, nevertheless, the result only shows four dimensions which the dimension anxiety and distrust which were combined to be one dimension, distrust. In the previous research, some researchers dropped out the dimension of quality because they believed that the item on that dimension was reflected in the factor of power-prestige (Medina, Saegert, & Gresham, 1996; Roberts & Sepulveda M., 1999; Yang & Lester, 2002). As the result of this research in Indonesia, it was found that dimension of quality did not have a significant effect on mental budgeting. However, in China, it was found the different result that had a negative correlation.

In this research, we found that Indonesian people have a higher score of mental budgeting than Chinese people. Apparently, Indonesian people manage the finances or money more than Chinese people do, however, this budget has the purpose, i.e., to leisure or entertainment activities and to prepare for the future (Rakhmat & Tarahita, 2017). Indeed, it looks different from Chinese people, wherein they are to spend money directly
to a desire for prestige (‘face’; Durvasula & Lyonski, 2010).

Herdjiono and Damanik (2016) in their research also found if the individuals had the good concept of money or financial, they would show a good perception about their future (obsession). They will not use money as the way to control other people or solve the problem (power). They had the ability to control their financial situation (effort) and knew how to balance their money (inadequacy). This statement also has the same orientation as the concept of money attitude, where Indonesian people are also more concerned to prepare for the future, it is shown that the score of retention-time related with mental budgeting.

Nevertheless, the result found that power spending is an important part of Chinese people’s life. As like as their culture, they believe in ‘face’, the face can be the kind of prestige that is emphasized in a reputation to achieve through on life. Money is the way to show up your wealth and prestige in their life. Moreover, Chinese people still concern to the preparation of their money for the future and somehow they will fill distrust toward their own money. They know how to keep and spend their money, even though they have suspicious feeling and hesitation when spending money. Probably they are worrying that spending money not in the proper way or in the good aspect of their life that will influence their way to make a budget.

Moreover, personality trait, especially conscientiousness has the impact on mental budgeting as shown in this research. Badgaiyan, Verma, and Dixit (2016) stated that the high score conscientiousness made individual to be more economical and more concerned about the spending money. But we cannot say if all the Indonesian people have the high score of conscientiousness, nevertheless, Schmitt, Allik, McCrae, and Benet-Martínez (2007) found if Indonesian people had the higher score of conscientiousness than Chinese people. Our research found the different finding, as like that Chinese people have already changed their personality trait to be more responsible and discipline to focus on their life, especially related to money; no different conscientiousness between Indonesia and China.

However, some of the evidence found the differences; it seems that between Indonesia and China in the process of development and the preparation in the globalization era which have the different perspective of view. This research has some limitation and suggestion, such as (1) Respondents in this research just focus on two universities; University of Surabaya (Indonesia) and Zhejiang University (China), so it makes the results of this research is homogeneous and cannot be generalized, (2) focus only on money attitude, conscientiousness, and mental budgeting. In the next research, probably we also can analyze the concept of materialism to measure the values of individual’s material items, dislike sharing items, and also their feeling about jealousy or enviousness when others acquire more goods, (3) The respondents for the next research are not only for the students, but also for the adults.
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