

**ANALYSIS OF MONEY ATTITUDE SCALE (MAS) AMONG STUDENTS IN UNIVERSITI  
MALAYSIA SABAH**

**LOKE YIP LOONG**

**PERPUSTAKAAN  
UNIVERSITI MALAYSIA SABAH**

**A DISSERTATION IS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF BACHELOR OF SCIENCE WITH HONOURS**

**MATHEMATICS WITH ECONOMICS PROGRAMME  
SCHOOL OF SCIENCE AND TECHNOLOGY  
UNIVERSITI MALAYSIA SABAH**

**2010**



BORANG PENGESAHAN STATUS TESIS@

JUDUL: ANALYSIS OF MONEY ATTITUDE SCALE (MAS) AMONG STUDENTS IN UNIVERSITI MALAYSIA SABAH

Ijazah: SARJAMU MUDA SAINS DAN KEPUIAN

SESI PENGAJIAN: 2007/2008

Saya LOKE YIP LOONG

(HURUF BESAR)

mengaku membenarkan tesis (LPS/Sarjana/Doktor Falsafah)\* ini disimpan di Perpustakaan Universiti Malaysia Sabah dengan syarat-syarat kegunaan seperti berikut: **PERPUSTAKAAN UNIVERSITI MALAYSIA SABAH**

1. Tesis adalah hakmilik Universiti Malaysia Sabah.
2. Perpustakaan Universiti Malaysia Sabah dibenarkan membuat salinan untuk tujuan pengajian sabaja.
3. Perpustakaan dibenarkan membuat salinan tesis ini sebagai bahan pertukaran antara institusi pengajian tinggi.
4. \*\*Sila tandakan ( / )

SULIT

(Mengandungi maklumat yang berdarjah keselamatan atau kepentingan Malaysia seperti yang termaktub di dalam AKTA RAHSIA RASMI 1972)

TERHAD

(Mengandungi maklumat TERHAD yang telah ditentukan oleh organisasi/badan di mana penyelidikan dijalankan)

TIDAK TERHAD

*[Handwritten Signature]*

(TANDATANGAN PENULIS)

Disahkan oleh **NIBULAIN BINTI ISMAIL**  
LIBRARIAN

*[Handwritten Signature]*

(TANDATANGAN PUSTAKAWAN)

UNIVERSITI MALAYSIA SABAH

Alamat Tetap: BLOK 10-18-3

TINGKAT PAYA TERUBONG 3

11060 PULAU PINANG

Prof. Dr. Amran Ahmed

Nama Penyelia

Tarikh: 5.5.2010

Tarikh: 06.05.2010

- CATATAN:
- \* Potong yang tidak berkenaan.
  - \*\* Jika tesis ini SULIT atau TERHAD, sila lampirkan surat daripada pihak berkuasa/organisasi berkenaan dengan menyatakan sekali sebab dan tempoh tesis ini perlu dikelaskan sebagai SULIT dan TERHAD.
  - @ Tesis dimaksudkan sebagai tesis bagi Ijazah Doktor Falsafah dan Sarjana secara penyelidikan, atau disertasi bagi pengajian secara kerja kursus dan penyelidikan, atau Laporan Projek Sarjana Muda (LPSM).

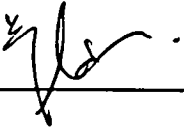
PERPUSTAKAAN UMS



\* 1000353996 \*

## **DECLARATION**

I declare that this dissertation is the result of my work, except the quotations and summaries each of which the source has been mentioned.



---

**LOKE YIP LOONG**

**(BS07110513)**

**2 MAY 2010**


# CERTIFICATION

## CERTIFIED BY

Signature

**1. SUPERVISOR**

(PROF. DR. AMRAN AHMED)

  
\_\_\_\_\_

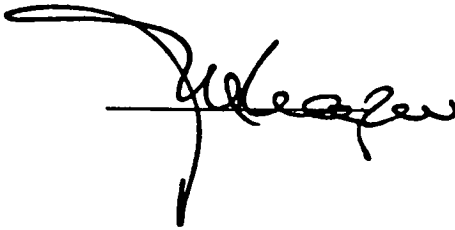
**2. EXAMINER 1**

(MDM. HJH. NORAINI ABDULLAH)

  
\_\_\_\_\_

**3. DEAN**

(PROF. DR. MOHD. HARUN ABDULLAH)

  
\_\_\_\_\_

## **ACKNOWLEDGEMENTS**

First and foremost, I would like to express a very special thank-you to my supervisor of this project, Prof. Dr. Amran Ahmed for his insightful comments, encouragement, and valuable guidance throughout the whole project.

Besides that, I would like to thank all my lecturers of Mathematics and Economics course. I express my gratitude for their kind support, advices, and knowledge given to me.

Last but not least, an honorable mention goes to my family members and friends for their understandings and supports on me in completing this project. Without their help of what I mentioned above, I would face many difficulties while doing this project.

## ABSTRACT

The main purpose of this study is to determine the Money Attitude Scale (MAS) among Universiti Malaysia Sabah students. A second purpose of the present study is to determine the relationships between several demographic measures and money attitudes. This study was carried out using questionnaires which contained demographic information and five factors of Money Attitude Scale (MAS) by Yamauchi and Templer (1982). Questionnaires were dispensed to 360 students in School of Science and Technology, Universiti Malaysia Sabah. Cronbach's alpha of these five factors ranging from 0.727 to 0.875. Factor analysis of MAS scale was then carried out using principle components and varimax rotation. Five factors explained for 50.259% to 69.489% of the total variances respectively. Only one item of the original Anxiety factor was removed from the scale. Independent-samples t-test showed that males were like to view money as a source of power compared to females. Also, males were like to pay more to get the quality desired. On the other hand, one-way analysis of variance also showed some significantly differences between demographic variables (age, race, religion) on factors of the Money Attitude Scale. However, present study found no significant differences between programs of studying, parents' income and education levels on any factors of the Money Attitude Scale.

# **ANALYSIS SKALA SIKAP KEWANGAN DI KALANGAN MAHASISWA UNIVERSITI MALAYSIA SABAH**

## **ABSTRAK**

Tujuan utama kajian ini adalah untuk menentukan skala sikap kewangan di kalangan mahasiswa/i Universiti Malaysia Sabah. Tujuan kedua kajian ini adalah untuk menentukan hubungan antara beberapa faktor demografik dengan skala sikap kewangan. Kajian ini dijalankan dengan menggunakan soal selidik yang mengandungi maklumat demografik dan lima faktor daripada skala sikap kewangan (MAS) oleh Yamauchi dan Templer (1982). Soal selidik diagihkan kepada 360 pelajar di Sekolah Sains dan Teknologi, Universiti Malaysia Sabah. Cronbach's alpha daripada lima faktor adalah mulai dari 0.727 hingga 0.875. Tahap keesahan MAS kemudian dilakukan dengan menggunakan prinsip komponen dan putaran varimax. Jumlah varians bagi lima faktor MAS adalah dari 50,259% hingga 69,489% masing-masing. Hanya satu item daripada faktor Runding telah dikeluarkan daripada skala MAS. Dengan menggunakan ujian t tak bersandar, keputusan menunjukkan mahasiswa lebih cenderung melihat kewangan sebagai tanda kuasa berbanding dengan mahasiswi. Selain itu, mahasiswa ingin membayar lebih untuk mendapatkan kualiti yang dikehendaki. Di samping itu, analisis varians satu hala (ANOVA) juga menunjukkan beberapa perbezaan yang signifikan antara pembolehubah-pembolehubah demografik (umur, etnik, agama) dengan faktor-faktor skala sikap kewangan. Namun demikian, kajian ini tidak menunjukkan sebarang perbezaan di antara program pelajar, pendapatan dan tahap pendidikan ibu bapa dengan faktor skala sikap kewangan.

# CONTENTS

	Page
DECLARATION	ii
CERTIFICATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
ABSTRAK	vi
LIST OF CONTENTS	vii
LIST OF TABLES	ix
LIST OF SYMBOLS	x
<b>CHAPTER 1 INTRODUCTION</b>	
1.1 Introduction	1
1.2 Money Attitudes	2
1.3 Objectives of Study	2
1.4 Scope of Study	3
1.5 Limitations of Study	3
1.6 Signification of Study	4
<b>CHAPTER 2 LITERATURE REVIEW</b>	
2.1 Money Attitudes Scale	5
2.1.1 Money Attitude Scale (MAS)	5
2.1.2 Money Beliefs and Behaviour Scale (MBBS)	6
2.1.3 MAS and MBBS	7
2.2 Relationships of Gender and Money Attitudes	8
2.3 Relationships of Age and Money Attitudes	9
2.4 Relationships of Ethnic and Money Attitudes	9
2.5 Relationships of Programs of Studying and Money Attitudes	10
2.6 Relationships of Income and Money Attitudes	10
2.7 Relationships of Education and Money Attitudes	11
<b>CHAPTER 3 METHODOLOGY</b>	
3.1 Introduction	12
3.2 Instrument	12
3.3 Statistical Methods	14
3.4 Reliability Test	14
3.5 Factor Analysis	15
3.5.1 Correlation Coefficient	15
3.5.2 Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity	16
3.5.3 Principal Components Analysis (PCA)	17
3.5.4 Variance for Principal Component	17
3.5.5 Varimax Rotation	18
3.6 One-Way Analysis of Variance (ANOVA)	19
3.7 Kruskal-Wallis H Test	21
<b>CHAPTER 4 RESULT</b>	
4.1 Introduction	23
4.2 Descriptive Statistic	23
4.3 Reliability Test	27
4.4 Factor Analysis	28
4.5 Independent-Samples T-Test	34



4.6	One-Way Analysis of Variance (ANOVA)	38
<b>CHAPTER 5 DISCUSSION AND CONCLUSION</b>		
5.1	Overview	47
5.2	Conclusion	49
5.3	Suggestions	50
REFERENCES		51
APPENDIX A		54
APPENDIX B		57

## LIST OF TABLES

Table No.		Page
3.1	Data for one-way ANOVA	19
3.2	The one-way ANOVA table	20
4.1	Gender	23
4.2	Year in UMS	24
4.3	Programs of Studying	24
4.4	Races	25
4.5	Religions	25
4.6	Cumulative Grade Point Average	26
4.7	Parents' education levels	26
4.8	Parents' income	27
4.9	Reliability Test (Item-Total Statistics)	28
4.10	Total Variance Explained (Power-Prestige)	29
4.11	Component Matrix (Power-Prestige)	29
4.12	Total Variance Explained (Retention-Time)	30
4.13	Component Matrix (Retention-Time)	30
4.14	Total Variance Explained (Distrust)	31
4.15	Rotated Component Matrix (Distrust)	31
4.16	Total Variance Explained (Quality)	32
4.17	Component Matrix (Quality)	32
4.18	Total Variance Explained (Anxiety)	33
4.19	Rotated Component Matrix (Anxiety)	33
4.20	Independent Samples Test (Gender and Power-Prestige)	34
4.21	Group Statistics (Gender and Power-Prestige)	34
4.22	Independent Samples Test (Gender and Quality)	35
4.23	Group Statistics (Gender and Quality)	36
4.24	ANOVA (Year in UMS and Anxiety)	42
4.25	Duncan (Year in UMS and Anxiety)	42
4.26	ANOVA (Races and Retention-Time)	43
4.27	Duncan (Races and Retention-Time)	43
4.28	ANOVA (Religions and Distrust)	45
4.29	Duncan (Religions and Distrust)	45
4.30	ANOVA (Religions and Anxiety)	46
4.31	Duncan (Religions and Anxiety)	46

## LIST OF SYMBOLS

$=$	equal to
$\geq$	greater or equal to
$\leq$	smaller or equal to
$\mu\text{m}$	nanometer
$\sum$	summation
$R_{xi}^2$	highest sum of the squared multiple correlations
$\lambda_i$	variance of the $i$ th principal component
$\sigma_i^2$	covariance of the $i$ th principal component
$\sqrt{\lambda}$	square root of variance
$\frac{\lambda_i}{p}$	proportion of variances
$L_r$	$p \times k$ rotated loading matrix
$L$	original $p \times k$ principal component loading matrix
$T$	$k \times k$ orthogonal transformation matrix

# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Introduction**

Money changes everything. Money affects career and relationship choices as well as matter of control, safety, self esteem and also well being. Majority of decision made, and people personality, is developed by what people believe about money. Money is not about numbers but involve feelings, it is about the way we feel about it. Engelberg & Sjoberg (2006) felt that money is a huge emotional, psychological and symbolic unit to people. People bring their own meanings, emotions and experiences to their relationship with money.

Money attitudes influence people lives in nearly all aspects. Relationships, health, spending attitudes, career, you name it. One's cultural background influences the symbolic meaning of money (Tang, 1993). Money attitudes are always developed through one's surrounding background. Parental income, parenting practices, education, social class, beliefs, and money habits all influence one's money attitudes (Tang & Gilbert, 1995). On the other hand, mass media has influence on money attitudes as well. Money attitudes are created since our childhood and will remain almost consistent throughout our life (Tang & Gilbert, 1995).

## **1.2 Money Attitudes**

Forman (1987) found that money attitudes are not rational and controlled by powerful, unrecognized emotional forces. Five categories of money attitudes were classified as:

- i. Miser – describes people who save money in order to assure financial secure.
- ii. Tycoon – describes people who attempt to be wealthy in order to control people around.
- iii. Spendthrift – describes people who manage depressive feelings by spending money.
- iv. Bargain Hunter – describes people who desire to buy things for less.
- v. Gambler – describes people who like the feeling of excitement when playing a game of chance.

According to Furnham & Argyle (1996), people's money attitudes are obtained through education, professional experience, and financial habits. Wernimont & Fitzpatrick (1972) found that money was used to represent comfort and security. For groups of unemployed persons and college students, money was failure and insufficiency in some matter.

## **1.3 Objectives of Study**

There are several objectives need to be achieved in the present study. The objectives in this study are as follows:

- i. To determine the Money Attitude Scale among University Malaysia Sabah students.

- ii. To determine the relationship between each of the factors of money attitudes (Power-Prestige, Retention-Time, Distrust and Anxiety) and demographics among students in University Malaysia Sabah.
- iii. To determine the differences among the factors of MAS.

#### **1.4 Scope of Study**

In this study, questionnaires which contained five factors Money Attitude Scale (MAS) and also demographic information will be dispensed to approximately 360 students in School of Science and Technology, Universiti Malaysia Sabah. The demographic variables that will be analysed in this study are as follows:

- a) Gender
- b) Age
- c) Race
- d) Religion
- e) Program
- f) Cumulative Grade Point Average (CGPA)
- g) State
- h) Parent's education level
- i) Parent's income

#### **1.5 Limitations of Study**

The sample selection for present study was limited to Universiti Malaysia Sabah students. Results of this study may not represent the wide population of university students. On the other hand, the survey was administered using self-report format.

## **1.6 Signification of Study**

The present study is to refine the Money Attitude Scale which is better to describe the money attitudes among Universiti Malaysia Sabah students. On the other hand, this study examines the relationship between certain demographic measures (gender, age, program, etc) and the factors of Money Attitude Scale.

## **Chapter 2**

### **LITERATURE REVIEW**

#### **2.1 Money Attitudes Scale**

Several psychologists have made an effort to develop a money attitudes scale, such as The Money Madness Scale of Forman (1987), The Money Beliefs and Behavior Scale (MBBS) of Furnham (1984), The Money Ethic Scale of Tang (1992), and The Money Attitude Scale (MAS) of Yamauchi & Templer (1982b). The most common among the money attitude scales was MAS and MBBS.

##### **2.1.1 Money Attitude Scale (MAS)**

Money Attitude Scale (MAS) was developed by Yamauchi & Templer (1982) using random sample of 300 volunteers from Los Angeles and Fresno, California. Initially Yamauchi & Templer (1982b) test a factor analysis of 62 items on the basis of three domains which labeled as (1) Security, which relate to optimism and pessimism, confidence and insecurity, comfort and dissatisfaction; (2) Retention, which consists of parsimony, hoarding, and obsessive personality traits; (3) Power-Prestige, which concerns aspects of status, importance, superiority and acquisition.

A principal component analysis was used and factors with eigenvalues larger than 1.0 were extracted. Then those items loading higher than 0.40 were retained.



This method resulted in 34 items representing the five factors: power-prestige, retention-time, distrust, quality, and anxiety. Items loading highly on Power-Prestige describe attitude of using money to impress and influence others as well as treat money as an ultimate symbol of success. Items loading highly on Retention-Time imply attitude of planning financial for the future. Hesitant, suspicious and doubtful attitudes describe the items on Distrust. Last factor, anxiety describes the thought of money is a source of anxiety. MAS was stayed at high level of reliability, proved by Cronbach's alpha more than 0.87 using test-retest method.

Roberts & Sepulveda (1999) investigate the sufficiency of MAS scale by Yamauchi & Templer (1982) in a sample from outside the United State. Sample consists of 274 people living in Monterrey, Mexico. The study found that all items loaded on factors of "Power-Prestige" and "Retention-Time", their total variance were same like the original analysis in MAS by Yamauchi & Temple (1982b). The study suggested that Yamauchi & Templer's third and fourth factor labeled "Distrust" and "Anxiety" of MAS need to be altered. Roberts & Sepulveda (1998) rearranged the items from the third and fourth factor labeled "Distrust" and "Anxiety" and added a new fifth factor labeled "Bargain-conscious/compulsive" which contains of 3 items. All the five final factors accounted for 56% of the total variance and the acquired values of Cronbach's alpha is equal or more than 0.77. This implies that the refinement has improved the reliability of the MAS scale.

### **2.1.2 Money Beliefs and Behavior Scale (MBBS)**

Money Beliefs and Behavior Scale (MBBS) is a 60 items list with 7-point agree-disagree scale. Items came from three different sources: items from the MAS (Yamauchi & Templer, 1982b), items from the psychology of money (Goldberg & Lewis, 1979), and items from the Midas scale (Rubinstein, 1980). MBBS contains six factors: the first factor has been labeled Obsession. People scoring high on this factor imply they are obsessed by money methods. The second factor is labeled Power/Spending, those holding these beliefs treat money as a means of power. Next

factor called Retention which describes people that are careful with their money. The fourth, labeled as Security/Conservative refer to conservative attitude of a person towards money. Then the fifth factor is labeled Inadequate. People holding these beliefs feel that money is never quite enough. Lastly, the sixth factor labeled Effort/Ability refers to one's ability and effort to earn money.

Masuo *et al.* (2004) investigates college students' money beliefs and behaviors (MBBS). The sample consists of 290 college students from Korea, Japan and United States. Results show high reliability for items in MBBS with Cronbach's alpha more than 0.80 students from Korea, Japan and United States.

### **2.1.3 MAS and MBBS**

Baker & Hagedorn (2008) study a factor analysis of MAS by Yamauchi and Templer (1982b) and MBBS by Furnham (1984) using a sample of 200 adults in Canadian city. The Cronbach's alpha for MAS and MBBS were compared respectively. Result was 0.783 for the MAS and 0.775 for the MBBS. Then, reliabilities for each of the subscales were calculated. Using  $\alpha = 0.7$ , only the "power-prestige" factor from MBBS is reliable, while the MAS results in good reliability.

A reliable four-factor solution has been produced by combining items from the MAS and MBBS. 45 items were selected for analysis to develop a scale to measure money attitudes. 5 items that loaded highest on each of 4 factors in MAS and 5 items that loaded highest on each of 5 factors in MBBS were selected. A reliable four factors solution are Power-Prestige which consists of 11 items, Frugality-Distrust which consists of 11 items, Planning-Saving which consists of 10 items and Anxiety which consists of 8 items. Cronbach' alpha for these factors were 0.824, 0.788, 0.733 and 0.720 respectively. All of these represent high reliability and more important is that they are all higher than the alpha using MAS or MBBS alone. Thus Yamauchi, Templer, and Furnham's (YTF) scale indicating a better reliability scale.

## 2.2 Relationships of Gender and Money Attitudes

It is predicted that money attitudes may partly be determined by a person's gender. Previous researches have done several explains on this relationship. Furnham (1984), using his Money Beliefs and Behaviour Scale (MBBS), proved that males were more obsessed with money while females were more conservative and security-conscious. On the other hand, females believed that they had little control over their financial situation.

Wernimont & Fitzpatrick (1972) summarized that money has different meanings to different people. In their research, males felt that money was more essential than females. Rudmin (1990) suggested that men like to use money to influence and impress others (Power-Prestige). Whereas women like to think that money in terms of the things that it can be exchanged. Women expressed less confidence in their financial dealing (Frugality-Distrust and Anxiety) and more security minded in money handling (Planning-Saving) than men (Prince, 1991).

Lim & Teo (1997) studied the influences of gender on money attitudes using sample of 152 undergraduate students in the National University of Singapore. A total of 66 items which adopted from Money Attitude Scale (MAS) by Yamauchi and Templer (1982b), Money Beliefs and Behavior Scale (MBBS) by Furnham (1984), and Money Ethic Scale (MES) from Tang (1992) are used to measure undergraduate students' attitudes toward money. The results showed some differences on money attitudes between males and females where males like to use money as a means of evaluation compared to females.

Lim *et al.* (2003) studied the influences of gender on money attitudes among Singaporean Chinese using Lim & Teo's money scale (1997) which consists of 34 items in eight dimensions labeled Obsession, Power, Budget, Achievement, Evaluation, Anxiety, Retention, and factor non-generous. Results showed that males

have significantly higher scores on factors of power and anxiety, whereas females have higher scores on factors of budget, retention, and evaluation of money attitudes.

### **2.3 Relationships of Age and Money Attitudes**

Furnham (1984) using a total sample of 256 respondents to examine the relationships of age and Money Beliefs and Behavior Scale. 147 out of 256 respondents were between 18-20 years old, 75 respondents were between 31-50 years old, and 34 respondents were over 50 years old. Results showed that younger people were like to use money to impress others, careless with their money, and less security minded than older people. Tang (1995) found that older people were like to do financial planning (Planning-saving) and proud of financial victory (Power-Prestige).

### **2.4 Relationships of Ethnic and Money Attitudes**

There are not many researches in ethnic-money attitudes relationship previously. Medina *et al.* (1996) compared attitudes toward money of Mexican-American and Anglo-American using Yamauchi & Templer's (1982b) Money Attitude Scale (MAS), Mexican-American scored significantly lower scores than Anglo-American on the Retention-Time scale. However, the study showed no difference between the two ethnics on Power-Prestige, Distrust and Anxiety dimensions. Hayes (2006) studied differences in the Powerful Others dimension between freshman students from the Mexican American, Latino/Latina culture compared to other cultures. Results showed that the Mexican-American and Latino/Latina cultures have stronger influence over their money compared to other non-white cultures.

Medina *et al.* (1996) compared attitudes toward money of Mexican-American and Anglo-American consumers by using Money Attitude Scale (MAS). Analysis

results suggested that Mexican-Americans scored significantly lower scores on a Retention/Time factor. This study implied Anglo-Americans were like to manage their money to prepare for the future.

## **2.5 Relationship of Programs of Studying and Money Attitudes**

Only few researches were done previously on the relationship of money attitudes and programs of studying. Kline & Lapham (1992) suggested that engineering and science based student are tended to be more obsessed with money compared to art stream and social science students. Du & Tang (2005) used Love of Money Scale (LOMS) to examine the money attitudes among students from three different programs in China: sociology, law and political. Results concluded that students from different programs have no significant difference on money attitudes.

## **2.6 Relationship of Income and Money Attitudes**

Based on the previous studies, income-money attitudes relationship still requires more researches due to the inconsistent results. Wernimont & Fitzpatrick (1972) found that higher income people were more interested in the abilities of money to give them material comfort and security (factor 5 of Wernimont and Fitzpatrick's Money Attitude Scale). On the other hand, Furnham (1984) found that less income people were more obsessed with money and like to use money to influence others (Power-Prestige). However, Tang (1993) found that lower income people were more like to budget their money carefully (Retention-Time). There also a study found that no relationship between income and money attitudes (Yamauchi & Templer, 1982b).

## **2.7 Relationship of Education and Money Attitudes**

Not many researchers have been done to examine the education-money attitudes relationship. Furnham (1984) found that less educated people were more obsessed with money and also like to use money to influence others (Power-Prestige). Conversely, Furnham (1996) found that well educated people were more difficult to pass up a bargain (Anxiety) compare to less educated people. Forman (1987) concluded that high educated people more like to hunt for bargains due to shop bargains will makes them feel better.

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Introduction**

This research is to determine the money attitudes among students in School of Science and Technology, Universiti Malaysia Sabah. The questionnaire will be dispensed to approximately 360 students in Universiti Malaysia Sabah. Each questionnaire took around 20 minutes to complete.

#### **3.2 Instrument**

The questionnaire contained five factors Money Attitude Scale (MAS) by Yamauchi & Templer (1982b) and also demographic information. Demographic variables included gender, age, program of studying, race, religion, Cumulative Grade Point Average (CGPA), state, parent's income and parent's education level.

The first section of Money Attitude Scale contained nine items and was labeled Power-Prestige. Items on this factor implied that money can be used as the power to influence and impress others. People scoring high on this factor also treat money as the measurement of success. Those scoring high on this factor are people who use money to impress others and feel proud of financial victory.

The second section consists of seven items and was labeled Retention-Time. Items from this factor focused on financial planning for future and careful use of money. People scoring high on this factor aimed at the future which required well preparation.

The third section contained eight items and was labeled Distrust. High scoring people on this factor show hesitant, suspicious, and doubtful attitudes with respect to money.

The fourth section labeled Quality. The five items on this factor focus on the buying of quality, name brand products.

The fifth section consists of six items and was labeled Anxiety. People scoring high on this factor have difficulty making spending decisions and feel that money saved is never enough.

Five-level Likert item will be used in this questionnaire. This is because Dawes (2008) said that there are just slightly differences in term of min, skewness or kurtosis compared to 7-level Likert item. Thus it would not affect the results significantly. Hence, by considering about time conservation, five-level Likert item will be used.

The format of a typical five-level Likert item is:

1. Strongly disagree
2. Disagree
3. Neither agree or disagree
4. Agree
5. Strongly agree



## REFERENCES

- Ahmad, S. Y., Amran, A., Darmesah, G. & Chin, S. N. 2008. *Problems & Solutions in Statistics for Engineers & Scientists*. Prentice Hall, Pearson Malaysia, Kuala Lumpur.
- Alexander, M., Franklin, A. G., Duane, C. B. 1974. *Introduction to the Theory of Statistics*. 3<sup>rd</sup> ed. McGraw-Hill, New York.
- Baker, P. M. & Hagedorn, R. B. 2008. Attitudes to money in random samples of adults: Factor analysis of the MAS and MBBS scale, and correlations with demographic variables. *The Journal of Socio-economics*, 12
- Bailey, W., Johnson, P., Adams, C., Lawson, R. J., Williams, P. K. & Lown, J. 1994. An exploratory study of the money beliefs and behaviors scale using data from three nations. *Consumer Interests Annual*, 178–185.
- Cortina, J.M., 1993. What Is Coefficient Alpha? An Examination of Theory and Applications. *Journal of Applied Psychology*, **78**(1): 98-104.
- Dawes, J. 2008. "Do Data Characteristics Change According to the number of scale points used? An experiment using 5-point, 7-point and 10-point scales." *International Journal of Market Research*, **50**(1): 61-77
- Du, L. & Tang, T. L. P. 2005. Measurement invariance across gender and major. The love of money among university students in people's republic of China. *Journal of Business Ethics*, **59**: 281-293.
- Duntemann, G. H. 1994. Principal Component Analysis. In: Lewis-Beck, M. S. (eds) *Factor Analysis & Related techniques*. Sage Publications Inc, California.
- Engelberg, E. & Sjoberg, L. 2006. Money attitudes and emotional intelligence. *Journal of Applied Social Psychology*, **36**(8): 2027-2047.
- Forman, N. 1987. *Mind Over Money: How to Banish Your Financial Headaches and Achieve Money Sanity*. Doubleday, Toronto, Canada.
- Furnham, A. 1984. Many sides of the coin: The psychology of money usage. *Personality and Individual Differences*, **5**: 95–103.
- Furnham, A. & Argyle, M. 1996. *The psychology of money*. Routledge, New York.
- Furnham, A., Kirkcaldy, B., & Lynn, R. 1996. Attitudinal correlates of national wealth. *Personality and Individual Differences*, **21**(3): 345-353.
- Goldberg, H. & Lewis, R. T. 1979. *Money madness: The psychology of saving, spending, loving and hating money*. William Morrow and Company, New York.
- Hayes, J. V. 2006. *Money attitudes, economic locus of control, and financial strain among college students*. Unpublished master thesis, Texas Tech University.

- Howell, D. 2002. *Statistical Methods for Psychology*. Duxbury. California
- Julie, P. 2001. *SPSS survival manual*. Open University Press, Philadelphia.
- Kaiser, H. 1974. An index of factorial simplicity. *Psychometrika*, **39**: 31-36.
- Kline, P. & Lapham, S. L. 1992. Personality and faculty in British universities. *Personality and Individual Differences*, **13**(7): 855-857
- Lim, V. K. G. & Teo, T. S. H. 1997. Sex, money and financial hardship: an empirical study of attitudes towards money among undergraduates in Singapore. *Journal of Economic Psychology*, **18**: 369-386.
- Lim, V. K. G., Teo, T. S. H. & Loo, G. L. 2003. Sex, financial hardship and locus of control: an empirical study of attitudes towards money among Singaporean Chinese. *Personality and Individual Differences*, **34**: 411-429.
- Manly, B. F. J. 1997. *Multivariate Statistical Methods, a Primer*, 2<sup>nd</sup> ed. Chapman and Hall, London.
- Marjorie, A.P., Nancy, R.L., & John J.S. 2003. *Making Sense of Factor Analysis*. Sage Publications, California.
- Masuo, D. M., Malroux, Y. K., Hanashiro, R., & Kim, J. H. 2004. Do men and women perceive money differently? A study of Asian and Asian American college students. *The Western Family Economics Association*, **19**: 12-23.
- Medina, J. F., Saegert, J., & Gresham, A. 1996. Comparison of Mexican-American and Anglo-American attitudes toward money. *Consumer affairs*, **30**(1): 124-145.
- Oppenheim, A. N. 1992. *Questionnaire design, interviewing and attitude measurement*. Pinter, London.
- Prince, M. 1991. Gender and money attitudes of young adults. *Proceedings of the Conference on Gender and Consumer Behaviour*. 284-291.
- Prince, M. 1993. Women, men, and money styles. *Journal of Economic Psychology*, **14**: 175-182.
- Roberts, J. A., & Sepulveda, C. J. 1999. Demographic and money attitudes: A test of Anglo-American attitudes toward money. *Consumer affairs*, **30** (1): 124-145.
- Rubinstein, C. 1980. Your money and your life. *Psychol. Today* 12: 47-58.
- Rudmin, F. W. 1990. German and Canadian data on motivations for ownership: was Pythagoras right? *Advances in Consumer Research*, **17**: 176-181.
- Tabachnick, B. G., & Fidell, L. S. 1996. *Using multivariate statistics*, 3<sup>rd</sup> ed. HarperCollins, New York.

- Tang, T. L. P. 1992. The meaning of money revisited. *Journal of Organizational Behavior*, **13**: 197-202.
- Tang, T. L. P. 1993. The meaning of money: extension and exploration of the Money Ethic Scale in a sample of University students in Taiwan. *Journal of Organizational Behavior*, **14**: 93-99.
- Tang, T. L. P. 1995. The development of a short money ethic scale: attitudes toward money and pay satisfaction revisited. *Personality and Individual Differences*, **19**(6): 809-816.
- Tang, T. L. P., & Gilbert, P. R. 1995. Attitudes toward money as related to intrinsic and extrinsic job satisfaction, stress and work-related attitudes. *Personality and Individual Differences*, **19**(3): 327-332.
- Wernimont, P. & Fitzpatrick, S. 1972. The meaning of money. *Journal of Applied Psychology*, **56**: 218-221.
- Yamauchi, K. & Templer, D. 1982a. Money Attitude Scale in Mexico. *Journal of Personality and Individual Differences*, **27**: 19-35.
- Yamauchi, K. & Templer, D. 1982b. The development of a money attitudes scale. *Journal of Personality Assessment*, **46**: 522-528.