



**UNIVERSITI PUTRA MALAYSIA**

***EFFECTS OF A FINANCIAL CAPABILITY INTERVENTION PROGRAM  
ON FINANCIAL WELLBEING OF MEDICAL PRACTITIONERS IN  
SELANGOR, MALAYSIA***

**RAJNA A/P R.ANTHONY**

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SELANGOR, MALAYSIA**

By

**RAJNA A/P R.ANTHONY**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,  
in Fulfillment of the Requirements for the Degree of Doctor of Philosophy**

**March 2018**

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## DEDICATION

*This Thesis Is Specially Dedicated to*

*.....the Pillars of the Study, the One hundred Medical Practitioners from Tengku Ampuan Rahimah General Hospital in Klang and Serdang General Hospital in Serdang, Selangor who willingly shared their personal financial information and made time from their busy work schedule to attend the one on one four-month coaching sessions for the benefit of their Peers...*

*I am indebted to every one of you for the invaluable contribution made.*



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UPPM

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Doctor of Philosophy

**EFFECTS OF A FINANCIAL CAPABILITY INTERVENTION PROGRAM  
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SELANGOR, MALAYSIA**

By

**RAJNA A/P R. ANTHONY**

**March 2018**

**Chairman : Associate Professor Mohamad Fazli Bin Sabri, PhD**  
**Faculty : Human Ecology**

The practice of medicine though rewarding is extremely demanding and stressful. With such high level of stress, compounded by poor work-life balance, many medical practitioners fail as competent money managers. In today's financial market, the financial service sector has created more accessible and greater financial services that require smart decision making interactions. This expectation has heightened the requirement for a financial capability intervention program on the financial wellbeing of the medical practitioners. This study adopted a sequential explanatory mixed methodology with randomized controlled pre-test-post-test experimental design. The Family Resource Management Model and the Financial Capability Model were integrated into a Logic Model Framework to serve as the proposed research conceptual framework. The Theory of Planned Behaviour and the theory of Transtheoretical Model of Behaviour Change were utilised to measure the outcome effect and to identify the Stages of Behavior Change of the participated medical practitioners before and after a financial capability intervention program.

A total of 100 medical practitioners were randomly assigned into intervention and control groups in equal proportion after both groups completed the pre-test questionnaire. The intervention group participants attended a series of five two hour one on one coaching session while the control group did not. After a four-month duration both the groups completed the post evaluation (post-test). In-depth interviews were conducted on seven selected participants based on criterion sampling. Parametric statistical techniques and thematic analysis were used to analyse the quantitative and qualitative data respectively.

Impact indicators revealed statistically significant increase in the levels of financial knowledge (30%), skill (24%), confidence (9%), practice (20%), financial capability (20%) and financial wellbeing (20%). There was also large magnitude of change (on Cohen's interpretation) in the effect sizes of within subject (pre and post) and between subjects (intervention and control) of financial knowledge ( $d=2.15$ ), skill ( $d=2.53$ ), practice ( $d=1.960$ ), financial capability ( $d=2.4$ ) and financial wellbeing ( $d=1.68$ ) whereas financial confidence showed medium effect ( $d=0.63$ ). The control group did not show any significant changes. No significant relationship was found between financial knowledge and financial wellbeing as well as between financial skill and financial wellbeing of the medical practitioners before and after the intervention program. However, financial confidence, financial practice, and overall financial capability showed positive linear correlation with financial wellbeing. Significant desirable positive financial behaviour stages of change were found in managing money, planning ahead, making choices and staying informed domains between those medical practitioners who were coached (intervention group) and those who were not (control group). The pre-test and post-test data of the control group showed that their financial behavioral stage remained unchanged. Alternatively, the medical practitioners who attended the four-month coaching program showed a distinct forward movement from one financial stage to another.

The findings of this study have implications for policy makers, financial educators, financial counsellors and coaches, workplace administrators, financial planners and medical practitioners themselves. Similar to coaching sport athletes, financial coaching have implications to enhance financial capability by building financial confidence. Hence, strategic financial activities for healthcare workers by opening staff financial wellness resource centres in the hospital to give coaching and counselling need to be considered. It is recommended that prior to designing appropriate financial literacy initiatives and undertake policy interventions it is vital for policy makers to understand consumer behavior and identify their weak financial areas based on initial assessment. Collaborative public-private partnership to drive financial capability programme at national level as an essential life skill from early age to adulthood is recommended. Finally, financial capability intervention programmes need to be promoted and complemented with coaching and counselling with regular follow up to motivate behaviour change.

In summary, this financial capability intervention program effectively brought about significant positive effect on the financial capability of the medical practitioners and subsequently on their financial wellbeing. As such, a logic model framework for financial capability intervention program was proposed through this study. Hence, this financial capability intervention program sets groundwork and stronger foundation for future research among other target population.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**KESAN PROGRAM INTERVENSI KEUPAYAAN KEWANGAN KE ATAS  
KESEJAHTERAAN KEWANGAN DI KALANGAN PEGAWAI  
PERUBATAN DI SELANGOR, MALAYSIA**

Oleh

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**Mac 2018**

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Walaupun pengamal perubatan memperoleh ganjaran yang tinggi namun mereka berhadapan dengan cabaran dan tekanan. Selain itu, ketidakseimbangan masa kerja dan kehidupan peribadi meningkatkan tahap tekanan yang diterima menyebabkan kebanyakan pengamal perubatan tidak mampu menguruskan kewangan dengan bijak. Pasaran kewangan pada ketika ini menyediakan perkhidmatan yang lebih mudah untuk diakses dengan menggunakan interaksi pintar. Oleh yang demikian, perkhidmatan yang bertambah baik ini telah meningkatkan keperluan untuk mengadakan suatu program intervensi keupayaan kewangan bagi meningkatkan kesejahteraan kewangan para pegawai perubatan. Reka bentuk kajian jenis penerokaan berturutan (*sequential explanatory mixed method*) dan reka bentuk kajian eksperimental jenis *randomized controlled pre-test-post-test* digunakan dalam kajian ini. Model Pengurusan Sumber Keluarga (*Family Resource Management Model*) dan Model Keupayaan kewangan (*Financial Capability Model*) digabungkan dengan rangka kajian Model Logic (*Logic Model*) untuk berfungsi sebagai rangka kerja konseptual kajian yang dicadangkan. Ini menggunakan Teori Tingkahlaku Terancang (*Theory of Planned Behaviour*) dan teori Model Transteoretikal Perubahan Tingkahlaku (*Theory of Transtheoretical Model of Behaviour Change*) untuk mengukur kesan dan untuk mengenal pasti tahap perubahan tingkahlaku pegawai perubatan sebelum dan selepas intervensi program keupayaan kewangan.

Seramai 100 orang pegawai perubatan dipilih secara rawak ke dalam kumpulan intervensi dan kawalan dalam kadar sama rata. Ini dilakukan selepas kedua-dua kumpulan ini selesai menjawab soalselidik pra-ujian. Peserta kumpulan intervensi telah menghadiri sejumlah lima sesi latihan keupayaan kewangan selama dua jam bagi setiap sesi manakala kumpulan kawalan tidak dilatih. Kedua-dua kumpulan ini telah

menyelesaikan soalselidik pasca ujian (*post-test*) selepas empat bulan. Seterusnya, seramai tujuh orang peserta dipilih berdasarkan persampelan kriteria untuk ditemubual dengan lebih mendalam oleh penyelidik. Kemudian, teknik statistik parametrik dan analisis tematik digunakan untuk menganalisa data kuantitatif dan kualitatif.

Berdasarkan analisis kajian, statistik yang signifikan meningkat bagi tahap pengetahuan kewangan (30%), kemahiran (24%), keyakinan (9%), amalan (20%), keupayaan kewangan (20%) dan kesejahteraan kewangan (20%). Nilai Cohen turut menunjukkan perbezaan kesan saiz dalam subjek (pra dan pasca) dan antara subjek (intervensi dan kawalan) pengetahuan kewangan ( $d = 2.15$ ), kemahiran ( $d = 2.53$ ), amalan ( $d = 1.960$ ), keupayaan kewangan ( $d = 2.4$ ) dan kesejahteraan kewangan ( $d = 1.68$ ) manakala keyakinan kewangan menunjukkan kesan sederhana ( $d = 0.63$ ). Namun, kumpulan kawalan tidak menunjukkan sebarang perubahan signifikan. Tiada hubungan signifikan juga dilihat di antara pengetahuan kewangan dengan kesejahteraan kewangan dan di antara kemahiran kewangan dengan kesejahteraan kewangan para pegawai perubatan sebelum dan selepas program intervensi. Walau bagaimanapun, keyakinan kewangan, amalan kewangan, dan keseluruhan kemampuan kewangan menunjukkan korelasi linear positif dengan kesejahteraan kewangan. Perubahan tingkah laku kewangan yang signifikan dan positif diperoleh di antara pegawai perubatan yang dilatih (kumpulan intervensi) dan mereka yang tidak dilatih (kumpulan kawalan) dalam domain menguruskan wang, merancang masa depan, membuat pilihan dalam keadaan bermaklumat. Data pra-ujian dan pasca ujian kumpulan kawalan menunjukkan bahawa peringkat tingkah laku kewangan mereka tidak berubah. Selain itu, pegawai perubatan yang menghadiri program latihan empat bulan ini menunjukkan perubahan yang lebih baik dari satu peringkat ke peringkat yang lain.

Penemuan kajian ini mempunyai implikasi terhadap pembena dasar, pendidik kewangan, penasihat dan pembimbing kewangan, pentadbir pekerja, perancang kewangan dan pengamal perubatan sendiri. Sama seperti membimbing atlet sukan, bimbingan kewangan mempunyai implikasi untuk meningkatkan keupayaan kewangan dan membina keyakinan kewangan. Oleh itu, aktiviti kewangan strategik untuk pekerja kesihatan dengan membuka pusat sumber kesejahteraan kewangan kakitangan di hospital untuk memberi bimbingan dan nasihat perlu dipertimbangkan. Adalah disyorkan bahawa sebelum merekabentuk inisiatif celik kewangan yang sesuai dan melaksanakan intervensi dasar adalah penting bagi pembuat dasar untuk memahami tingkah laku pengguna dan mengenal pasti kelemahan kewangan mereka berdasarkan penilaian awal. Disyorkan kerjasama rakan kongsi awam-swasta untuk memacu program keupayaan kewangan di peringkat kebangsaan sebagai kemahiran hidup penting dari peringkat awal hingga ke dewasa. Akhirnya, program intervensi keupayaan kewangan perlu dipromosikan dan dilengkapi dengan bimbingan dan kaunseling yang kerap untuk memotivasi perubahan tingkah laku.

Secara ringkas, program intervensi latihan keupayaan kewangan ini telah membawa kesan positif yang signifikan ke atas keupayaan kewangan para pegawai perubatan dan seterusnya kesejahteraan kewangan mereka. Oleh itu, model kerangka kajian



dicadangkan untuk program intervensi keupayaan kewangan menerusi kajian ini. Justeru, program intervensi ini merupakan kayu ukur yang kukuh untuk kegunaan penyelidikan masa depan dalam kalangan populasi sasaran yang lain.



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I believe I have made everyone proud.

RAJNA ANTHONY

I certify that a Thesis Examination Committee has met on 20 March 2018 to conduct the final examination of Rajna a/p R. Anthony on her thesis entitled "Effects of a Financial Capability Intervention Program on Financial Wellbeing of Medical Practitioners in Selangor, Malaysia" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

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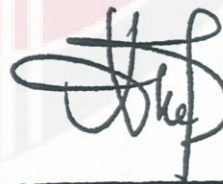
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## TABLE OF CONTENTS

	<b>Page</b>
<b>ABSTRACT</b>	i
<b>ABSTRAK</b>	iii
<b>ACKNOWLEDGEMENTS</b>	vi
<b>APPROVAL</b>	viii
<b>DECLARATION</b>	x
<b>LIST OF TABLES</b>	xviii
<b>LIST OF FIGURES</b>	xxi
<b>LIST OF ABBREVIATIONS</b>	xxiv

### CHAPTER

<b>1</b>	<b>INTRODUCTION</b>	1
	1.1 Background of the Study	1
	1.2 Problem Statement	2
	1.3 Research Questions	6
	1.4 Research Objectives	7
	1.4.1 Specific Objectives	7
	1.5 Research Hypotheses	8
	1.6 Significance of the Study	9
	1.7 Limitation in the Study	10
	1.8 Definition of the Terms	10
	1.8.1 Financial Capability	10
	1.8.2 Financial Practice	11
	1.8.3 Financial Behaviour Stages	11
	1.8.4 Financial Wellbeing	12
	1.9 Organisation of the Study Chapters	12
	1.10 Chapter Summary	13
<b>2</b>	<b>LITERATURE REVIEW</b>	14
	2.1 Introduction	14
	2.2 The Need for Financial Education	14
	2.3 Financial Capability Interventions	16
	2.3.1 Financial Capability Intervention Program Delivery	16
	2.3.2 Financial Coaching	17
	2.4 Financial Capability Effect Evaluation	21
	2.5 Financial Capability	23
	2.5.1 Constructs of Financial Capability	25
	2.5.1.1 Financial Knowledge and Understanding:	25
	2.5.1.2 Financial Skills and Competence	25
	2.5.1.3 Financial Attitude and Confidence	26



2.5.2	Domains of Financial Capability	26
2.5.2.1	Managing Money	26
2.5.2.2	Planning Ahead	27
2.5.2.3	Choosing Financial Products	27
2.5.2.4	Staying Informed	27
2.6	Financial Practices	28
2.7	Financial Behaviour Stage	29
2.8	Financial Wellbeing	30
2.9	Theories Related to this Study	34
2.9.1	Theory of Planned Behaviour	35
2.9.2	Application of Theory of Planned Behaviour in this Study	38
2.9.3	Theory of Transtheoretical Model of Behaviour Change	39
2.9.3.1	Pre-contemplation	41
2.9.3.2	Contemplation	41
2.9.3.3	Preparation	42
2.9.3.4	Maintenance and Termination	42
2.9.4	Application of TTM of Behaviour Change in this Study	43
2.9.5	Family Resource Management (FRM) Theory	44
2.9.6	Application of Family Resource Management System in this study	47
2.9.7	Financial Capability Model	48
2.9.8	Outcome Evaluation Using Logic Model	50
2.9.9	Application of Logic Model in Financial Educational Programs	51
2.10	A Proposed Conceptual Framework	52
2.11	Chapter Summary	56
<b>3</b>	<b>METHODOLOGY</b>	<b>57</b>
3.1	Introduction	57
3.2	Research Design and Justification	57
3.3	Components of Research Design	58
3.3.1	Philosophical Worldview Assumptions	58
3.3.2	Strategies of Inquiry	60
3.3.3	Research Method	62
3.4	Study Location	62
3.5	Study Population	63
3.6	Sample Size	64
3.7	Ethics Approval	66
3.8	Study Phases	67
3.9	Phase 1- Quantitative Method	67
3.9.1	Study Design - Randomized Two Group Experimental Design	67
3.9.2	Participatory Action Research	68
3.9.3	Research Instrument	69
3.9.3.1	Respondents' Profile	70

3.9.3.2	Financial Capability Survey Instrument	70
3.9.3.3	Financial Practice Survey Instrument	72
3.9.3.4	Stages of Behaviour Change Instrument	72
3.9.3.5	Financial Wellbeing	73
3.9.4	Validity of the Survey Instrument	73
3.9.5	Pilot study (Quantitative instrument)	73
3.9.6	Reliability Test - Cronbach's Coefficient Alpha	74
3.10	Financial Indicators for Effect Evaluation	74
3.11	Data Collection	75
3.11.1	Recruitment of Participants	76
3.11.2	Pre Data Collection	76
3.11.3	Intervention program	77
3.11.4	Topics Covered	77
3.11.5	Financial Capability Coaching Program	78
3.11.6	Readiness for Behavioral Change	81
3.11.7	Post Data Collection	82
3.11.8	Response rate	82
3.11.9	Study Duration	83
3.11.10	Survey Activities –Photographed	83
3.11.11	Statistical Analysis of Data	86
3.11.12	Quantitative data analysis	86
3.11.13	Descriptive Statistics	86
3.11.14	Tests of Normality	86
3.11.15	Statistical Tests for Research Hypotheses	87
3.12	Phase 11 – Qualitative method	88
3.12.1	Data Collection	89
3.12.2	Research instrument	89
3.12.3	Pilot Study (Qualitative Instrument)	90
3.12.4	Reliability and Content Validity	90
3.12.5	Interview Procedure	90
3.12.6	Qualitative Data Analysis	91
3.12.7	Categorizing and Identifying the Emergent Themes	91
3.12.8	Hierarchy Chart of Thematic Codes	92
3.12.9	Word Cloud of Thematic Codes	94
3.12.10	Clustered word similarity codes	95
3.12.11	Reliability and Validity (Coding)	97
3.13	Proposed logic Model	97
3.14	Chapter Summary	99
<b>4</b>	<b>RESULTS AND DISCUSSIONS</b>	<b>100</b>
4.1	Introduction	100
4.2	Results Phase 1 (Quantitative data analysis)	100
4.3	Descriptive Analysis of the Sample	100
4.4	Descriptive Analysis of the Study Variables	101
4.5	Financial Capability	101
4.5.1	Financial Knowledge and Understanding	102

4.5.1.1	Knowledge and Understanding in Managing Money	104
4.5.1.2	Knowledge and Understanding in Planning Ahead	105
4.5.1.3	Knowledge and Understanding in Making Choices	105
4.5.1.4	Knowledge and Understanding in Staying Informed	106
4.5.1.5	Percentage Response Score for Financial Knowledge	106
4.5.1.6	Percentage Mean Scores of Financial Knowledge	108
4.5.1.7	Effect Indicators of Financial Knowledge and Understanding	110
4.5.1.8	Level of financial knowledge and understanding	112
4.5.2	Financial Skill and Competency	114
4.5.2.1	Financial Skill and Competency in Managing Money	116
4.5.2.2	Financial Skill and Competency in Planning Ahead	116
4.5.2.3	Financial Skill and Competency in Making Choices	116
4.5.2.4	Financial Skill and Competency in Staying Informed	116
4.5.2.5	Percentage of Response Score for Financial Skill	117
4.5.2.6	Percentage Mean Scores of Skill	118
4.5.2.7	Effect Indicators of Financial Skill and Competency	120
4.5.2.8	Level of Financial Skill and Competency	121
4.5.3	Financial Attitude and Confidence	122
4.5.3.1	Financial Attitude and Confidence in Managing Money	124
4.5.3.2	Financial Attitude and Confidence in Planning Ahead	124
4.5.3.3	Financial Attitude and Confidence in Making Choices	124
4.5.3.4	Financial Attitude and Confidence in Staying Informed	125
4.5.3.5	Percentage of Response Score for Financial Attitude and Confidence	125
4.5.3.6	Percentage Mean Scores of Attitude and Confidence	127
4.5.3.7	Indicators of Financial Attitude and Confidence	128
4.5.3.8	Level of Financial Attitude and Confidence	130
4.6	Financial Practice	131

4.6.1	Financial Practice on Managing Money	131
4.6.2	Financial Practice on Planning Ahead	133
4.6.3	Financial Practice on Making Choices	133
4.6.4	Financial Practice on Staying Informed	133
4.6.5	Percentage Response Score for Financial Practice	134
4.6.6	Percentage Mean Scores of Financial Practice	134
4.6.7	Level of Financial Practice	135
4.7	Financial Wellbeing	137
4.7.1	Level of Financial Wellbeing	138
4.8	Results of the Randomized Controlled Trial	139
4.9	Research Question 1 (RQ1)	142
4.9.1	Hypothesis 1 (Ha1) Testing	142
4.9.2	Effect Size (ES)	144
4.10	Research Question 2 (RQ2)	147
4.10.1	Hypothesis 2 (Ha2) testing	148
4.10.2	Effect Size (ES)	151
4.11	Research Question 3 (RQ3)	153
4.11.1	Hypothesis 3 (Ha3) Testing	153
4.11.2	Effect Size	154
4.12	Research Question 4 (RQ4)	156
4.12.1	Hypothesis 4 (Ha4) Testing	156
4.12.2	Effect Size	159
4.13	Research Question 5 (RQ5)	160
4.13.1	Testing Hypothesis Ha5	161
4.13.2	Hypothesis Ha5 (i) Testing	161
4.13.3	Hypothesis Ha5 (ii) Testing	164
4.13.4	Hypothesis Ha5 (iii) Testing	165
4.13.5	Hypothesis Ha5 (iv) Testing	167
4.13.6	Hypothesis Ha5 (v) Testing	169
4.14	Research Question 6 (RQ6)	170
4.14.1	Testing Hypothesis Ha6	170
4.14.2	Respondents' Stages of Behavior Change in Managing Money	170
4.14.2.1	Analysis of Stages of Behavior Change in Managing Money	171
4.14.3	Respondents' Stages of Behavior Change in Planning Ahead	173
4.14.3.1	Analysis of Stages of Behavior Change in Planning Ahead	174
4.14.4	Stages of Behaviour Change in Making Choices	175
4.14.4.1	Analysis of Behavioral Stages of Change in Making Choices	176
4.14.5	Financial Stages of Behaviour Change in Staying Informed	177
4.14.5.1	Analysis of Stages of Behavior Change in Staying Informed	178
4.14.6	Summary - Stages of Behaviour Change	178
4.15	Results Phase 2 (Qualitative Data Analysis)	183

4.16	Research Question 7 (RQ7)	183
4.17	Demographic Description of Qualitative Respondents	183
4.18	Findings of the Qualitative Data Analysis	184
4.19	Themes of financial capability domains	185
4.19.1	Theme 1: Managing money	185
4.19.2	Theme 2: Planning ahead	188
4.19.3	Theme 3: Staying Informed	189
4.19.4	Theme 4: Making Choices	190
4.20	Themes of financial behaviour stages of change	193
4.20.1	Theme 5: Pre-contemplation	193
4.20.2	Theme 6: Contemplation	195
4.20.3	Theme 7: Preparation	196
4.20.4	Theme 8: Action	197
4.20.5	Theme 9: Usefulness of the intervention	199
4.21	Conclusion -Qualitative analysis	201
4.22	Summary of Results Using Proposed Logic Model Framework	202
4.23	Chapter Summary	204
<b>5</b>	<b>CONCLUSION AND RECOMMENDATIONS</b>	<b>205</b>
5.1	Introduction	205
5.2	Research Brief	205
5.3	Summary of Research Findings	206
5.4	Implications of the Study	209
5.5	Contributions of the Study	210
5.5.1	Contribution to Medical Profession and Healthcare Workers	210
5.5.2	Contributions to Literature	210
5.5.3	Contributions to Methodology	211
5.5.4	Contributions to Body of Knowledge	211
5.6	Study Limitations	212
5.7	Recommendations	214
5.8	Chapter Summary	216
	<b>REFERENCES</b>	<b>217</b>
	<b>APPENDICES</b>	<b>242</b>
	<b>BIODATA OF STUDENT</b>	<b>280</b>
	<b>PUBLICATION</b>	<b>281</b>

## LIST OF TABLES

<b>Table</b>	<b>Page</b>	
2.1	Statistics on the behavioural change of participants	18
3.1	Choice of Study Location	62
3.2	Public hospitals and medical practitioners in Selangor	63
3.3	Selected hospitals and number of medical practitioners according to rank	64
3.4	Effect Size of Meta-analysis of Coaching	65
3.5	Questionnaire Administration	69
3.6	Financial practice scale translated into stages of change approach	72
3.7	Cronbach Alpha for Reliability Test	74
3.8	Effect Indicator for financial Knowledge and Understanding	75
3.9	Financial capability intervention topics	78
3.10	Financial Coaching Intervention	80
3.11	'Preparedness for Behavioral Change' Tool	81
3.12	Study duration	83
3.13	Test of Normality	87
4.1	Demographic Characteristics of Respondents	101
4.2	Financial Capability Constructs and Domains	102
4.3	Percentage Scores on Financial Knowledge of Medical Practitioners	102
4.4	Percentage Mean Score of Financial Knowledge	109
4.5	Percentage Mean Score Difference between Pre and Post Intervention	110
4.6	Level of Financial Knowledge and Understanding	112
4.7	Financial Skill and Competency Item Analysis	115
4.8	Mean score of financial Skill and Competency domain	118
4.9	Financial Skill Percentage Mean Score Difference	119

4.10	Level of Financial Skill and Competency	121
4.11	Financial Attitude and Confidence item analysis	123
4.12	Percentage Mean Score of Financial Attitude and Confidence	127
4.13	Percentage Mean Score Difference between Pre and Post Intervention	128
4.14	Level of Financial Attitude and Confidence	130
4.15	Financial Practice Item Analysis	132
4.16	Percentage Mean Score of Financial Practice Domain	135
4.17	Percentage Mean Score Difference between Pre and Post Intervention	135
4.18	Level of Financial Practice	136
4.19	Financial Satisfaction	137
4.20	Level of Financial Wellbeing	138
4.21	Baseline comparison of intervention and control group variables	141
4.22	Intervention Effects on the Level of FCAP Constucts	143
4.23	Effect Size for Financial Capability Construct	146
4.24	Summary Hypothesis Ha1	147
4.25	Financial Capability Mean Score	148
4.26	Within-Subjects Effects of FCAP Intervention program and Time	149
4.27	FCAP Marginal Means Scores for within and Between Subjects	150
4.28	: Financial Capability Effect Size	152
4.29	Summary Hypothesis Ha2	152
4.30	Financial Wellbeing Mean Score	153
4.31	Financial Wellbeing Effect Size	155
4.32	Summary Hypothesis Ha3	155
4.33	Financial Practice Mean Score of Intervention and Control Group	156
4.34	Effects of Financial Practice and Time	157
4.35	Table: Marginal Means for Financial Practice	158

4.36	Financial Practice Effect Size	159
4.37	Summary Hypothesis Ha4	160
4.38	Relationship between FCAP Constructs and Financial Wellbeing	162
4.39	Relationship between FCAP and Financial Wellbeing	167
4.40	Correlation between Financial Practice and Financial Wellbeing	169
4.41	Financial Practice Scale Translated Into SBC Scale	170
4.42	Summary of Hypothesis Testing	180
4.43	Demographic Description of the Qualitative Respondents	184
4.44	Common Emergent Themes Identified	185



## LIST OF FIGURES

<b>Figure</b>	<b>Page</b>
2.1 A framework for financial capability intervention	18
2.2 Non-financial issues financial planners handle	20
2.3 Program Evaluation Formative Versus Summative	21
2.4 Financial Capability Constructs and Domains	25
2.5 CFPB Financial Wellbeing Conceptual framework	30
2.6 Interacting factors that influence the level of financial wellbeing	31
2.7 Theory of Planned Behaviour (TPB)	36
2.8 The Transtheoretical Model of Behaviour Change	41
2.9 Stages of change in Financial Literacy	44
2.10 Family Resource Management Framework	45
2.11 The System Theory	46
2.12 The Family Resource Management System Theory	48
2.13 Financial Capability Model	49
2.14 Layout of a General Logic Model	51
2.15 Financial education Logic Model Framework	51
2.16 OECD Logic Model Framework	52
2.17 Financial Capability Intervention Program Logic Model	55
3.1 The Interconnection of Worldviews, Strategies of Inquiry and Research Methods	58
3.2 Philosophical worldview assumptions	59
3.3 Sequential Explanatory Strategy	61
3.4 Qualitative analysis participant selection	61
3.5 Sample Size Calculation Using G*Power Program 3.1.9.2	65

3.6	Alternative Sample Size Calculation	66
3.7	Randomised two-group experimental design	68
3.8	Visual Model of Qualitative Data Analysis	91
3.9	Categorization of Thematic Codes	93
3.10	hematic codes from aggregated word similarities	94
3.11	Word Cloud of the emergent themes	95
3.12	Codes Clustered by Word Similarities (Financial Capability)	96
3.13	Codes Clustered by Word Similarities	96
3.14	Proposed logic Model of Financial Capability Intervention Program	98
4.1	Percentage Response Score for Financial Knowledge	107
4.2	Mean Score of Financial Knowledge Domain	109
4.3	Effect Indicators for Financial Knowledge and Understanding	111
4.4	Financial Knowledge level of Medical Practitioners	113
4.5	Percentage of Financially Skilled Medical Practitioners	117
4.6	Percentage Mean Score of Financial Skill and Competency	119
4.7	Effect Indicators for Financial Skill and Competency	120
4.8	Financial Skill and Competency level of Medical Practitioners	122
4.9	Percentage of Medical Practitioners with Positive Attitude	125
4.10	Effect Indicators for Financial Attitude and Confidence	129
4.11	Financial Attitude and Confidence level of Medical Practitioners	131
4.12	Overall Positive Financial Practice	134
4.13	Financial Practice level of Medical Practitioners	136
4.14	Financial wellbeing Level of Medical Practitioners	139
4.15	The Marginal Mean of FCAP Score by Time and Group	151
4.16	Financial Wellbeing Mean Score by Time and Group	154
4.17	Financial Practice Mean Score by Time and Group	159

4.18	Coefficient of Determination ( $r^2$ )	162
4.19	Linear Correlation Financial Confidence and Financial Wellbeing	166
4.20	Linear Correlation FCAP and Financial Satisfaction	168
4.21	Stages of Behavior Change in Managing Money	171
4.22	Stages of Behavior Change in Planning Ahead	173
4.23	Stages of Behavior Change in Making Choices	175
4.24	Stages of Behavior Change in Staying Informed	177
4.25	Summary of Overall Financial Behavioral Stages of Change	179
4.26	Explanatory Sequential Design	183
4.27	Results Summary Using Proposed Logic Model Framework	203

## LIST OF ABBREVIATIONS

FCAP	Financial Capability
FCIP	Financial Capability Intervention Program
UPM	Universiti Putra Malaysia
NMRR	National Medical Research Registry
MOH	Ministry of Health Malaysia
MREC	Medical Research Ethics Committee
CRC	Clinical Research Centre
IHBR	Institute for Health Behavioral Research



# CHAPTER 1

## INTRODUCTION

### 1.1 Background of the Study

The practice of medicine is extremely challenging. Medical practitioners are required to undertake the responsibility for patient management, stay current with medical knowledge and practice, continuously improving skills and competency, showing care, courtesy and be compassionate professionals (Malaysian Medical Council, 2006). With rapid changes in the medical advancement, these medical doctors are not only expected to know about every disease, they are also required to be able to treat every single patient they manage with the right treatment, putting aside all their own personal, family and financial issues (Fisher, Garside, Brock, Gibson, Hunt, Wyrko and Gordon, 2017). With such high level of stress, compounded by poor work-life balance, these medical practitioners fail as competent money managers to achieve financial wellbeing.

In Malaysia, it is a public perception that medical practitioners are well-informed consumers and excellent money managers due to their earning capacity and impressive lifestyle (Cheah, 2005). They are rated as one of the highest paid professionals (Youn, 2012; Khalid, 2016). Nevertheless, every year approximately three hundred highly trained and experienced medical doctors are leaving public hospitals to private healthcare services for greener pastures to generate higher income. Though there is no conclusive evidence that the migration to greener pasture could be due to their mismanagement of personal finances and lack of financial capability that lead them in search of extra income, 81 percent left due to low pay and 86 percent of these doctors migrated because of dissatisfaction with benefits (Aidalina & Aniza, 2015).

Many of these executives are good at earning money and good at their jobs but are poor at managing and investing as medical schools do not teach finance as a subject (Farber, 2001b; Hacker, 2011; Lieber, 2011). The Medical Economics Financial surveys in the year 2001 and 2004 indicated financial instability in physicians particularly doctors younger than 35 years old (Lowe, 2005). Some physicians are having problems with credit card debt. 80 percent of their debt are in mortgage loans and 30 percent indebtedness for medical education loans for physicians age 34 or younger. They lack the knowledge and capability to manage their money prudently. Many of these physicians are only successful in the later part of their lives (Farber, 2001b). There are several factors contributing to this. New to the world of finance, young physicians take charge of their own financial future with little or no experience. They model their parents, peers, and friends. They often rely on the front desk officers in the financial institutions for products and advice as they do not have the time, knowledge or skill to compare products (Farber, 2001a). They are tempted with credits (credit card, hire purchase loans, contracted long term so called, investments) without

being educated on the pros and cons of using these facilities. They take advice from commissioned base single service providers such as insurance and mutual fund intermediaries as they do not have time to survey for products. They acknowledged that they lack the know-how and guidance to manage their money and they admit making terrible financial mistakes (Medical Economics, 2001).

In today's financial market, financially capable individuals can contribute to the financial sector development, which in turn is strongly related to economic growth. Financially capable individuals are the ones who make good financial decisions, interact effectively with financial service providers and are more likely to achieve their financial goals and therefore improve their households' welfare (the World Bank, 2013). The effective and efficient use of information communication technologies (ICT) by today's busy individuals like the medical practitioners, who have the skills and understanding to interact with the technology accessibility, financial services sector has created greater and more convenient access to financial services and retail products like credit cards, deposit banking, mortgages, brokerage, and insurance. While it requires the individuals to be more financially capable and be more informed consumers to control their finances, a base level of financial ability to understand, determine and differentiate the benefits of such various competing products in a more complicated financial environment is a must. This expectation to interact with financial services with smart decision making has heightened the requirement for a financial capability intervention program that will enable consumers (medical practitioners) to make effective personal financial decisions.

## **1.2 Problem Statement**

The Malaysian National Credit Counselling and Debt Management Agency (CCDM) or better known as Agensi Kaunseling dan Pengurusan Kredit (AKPK) has recorded a total of 380,433 individuals had attended their debt counseling services, and from that, 140,671 have been enrolled in the agency's debt management program (Malaysia Department of Insolvency, 2015). An average of 41 Malaysians go bankrupt every day and 58.7 percent of them are young adults between the age group of 25-44 years old (Selvaraj, 2011). The number of bankruptcy among the Malaysian civil servants in year 2013 recorded to be 1638 out of which 262 (16 percent) of them are professionals including medical practitioners in the public hospitals (Department of Insolvency Malaysia, 2013).

The number one reason these civil servants became bankrupt was due to failure to pay hire purchase loans (Nair, Paim, Sabri, & Abdul Rahim, 2016). Overspending has become a nationwide concern. Credit card debt is another reason these young adults become bankrupt within the first five years of their working life (Mun & Rahim, 2011). Young public service executives like the house-officers and medical officers from the public hospitals are generously offered credit cards by the financial institutes but are not provided with sufficient information pertaining to the credit card usage as they are unaware of the negative impacts that can make them to be declared bankrupt

(Noordin, Zakaria, Zool, Mohamed, & Ngah, 2012). Financial missteps early in the career of individuals can extend to the economic challenges faced during their later years. Malaysian Central Bank (BNM)'s study on financial inclusion and capability found that only 18 percent of Malaysians can survive up to three months if they lost their main sources of income (Suhaimi, 2013).

The constant inability to afford the basic necessities of life, is a source of depression and is related to poor mental and physical health outcomes in the population (Mental Health Daily, 2014). There is a rising tendency of young adults getting into financial difficulties as a result of lifestyle pressure and lack of financial management skills. Although most financially troubled individuals eventually work their way out of debt, some others find it difficult and afraid to deal with the situation. They become embarrassed and miserable about their debt that they seek suicidal as an escape route (Mental Health Daily, 2014). Low financial capability has significant and substantial psychological effect for both gender. The size of the effect for men was that similar to being unemployed while for women the magnitude of the psychological effect is similar to that of being divorced. However, high financial capability was associated with higher levels of psychological health for both sexes. Nevertheless, improving financial capability will also improve psychological wellbeing (Taylor et al., 2011).

Financial wellbeing is a key indicator of mental wellbeing (Hayes, 2014). Financial wellbeing and mental wellbeing are indivisible and that poor mental health is deepened by financial problems (Hayes, Parchman & Howard, 2011). There is a clear recurring link between mental and financial health. Poor financial health leads to poor mental health, including depression, anxiety, and some forms of psychosis, which in turn leads to further poor financial health, and the cycle repeats. These mental health issues are three times more likely to occur when an individual is in debt (Campbell, 2016).

In Malaysia, as of 31st December 2015, the total number of medical practitioners working in the country are 46,491 of which 33,545 were employed by the public sector health ministry (Ministry of health, 2015). It is common for a medical officer despite, having a monthly employment cash inflow of RM 8,500 (minus income tax and employer provident fund) at the age of 30, provide locum services to private general practitioners and private hospitals to earn extra income (Malaysian Medical Council, 2006). A medical officer who does five locum services in a month can earn an average of RM 2000 (Hafiz, 2010). Some medical officers do locum every other day, to cope up with the cost of living and their notable lifestyle (Cheah, 2005). Therefore, a medical officer at age 30 years old employed in the public sector can earn an average annual income of RM100, 000. In comparison to a 30-year-old other profession executives (lecturers, account executives, software engineer, mechanical engineer, civil engineer and marketing executive) the annual median salary scale ranges from RM40,000–RM60,000 (pay scale, 2016).

This raises a question. Why do medical officers from the public hospitals who earn twice the amount than their other professional peers, are in search of extra income even when they are struggling to balance between family-work busy lives?

Many young doctors said, money has significant impacts on their self-esteem and their work-related behaviour (Farber, 2001a). A study conducted by Al-Najjar (2008), revealed that financial difficulties are the primary source of distress for physicians and general practitioners while working in the public hospitals. These psychological symptoms not only affecting the physicians mentally, their professional image too is endangered with their patients' lives at stake (Bright, 2011). Therefore, there is obviously more to be uncovered in relation to their financial capability practice gap and their financial wellbeing.

The Malaysian Economic Transformation Programme's (ETP) progress report 2013, acknowledges that Bank Negara Malaysia, the Central Bank of Malaysia (BNM) uses a risk-based approach to consumer protection that is complemented by financial education and market intelligence to highlight products and practices posing undue risk to consumers, such as aggressive credit-card marketing or outsourcing debt collection (BNM, 2013). Financial capability is important for life-long financial sustainability (Suhaimi, 2013). The key for policymakers to design appropriate financial capability initiatives and undertake policy interventions is to understand consumer behaviour. Financial capability intervention program provide the necessary knowledge, skills and tools for consumers to make informed financial decisions with confidence. This allows individuals to build, accumulate, manage and preserve wealth (Suhaimi Ali, 2013). Lack of financial capability is a critical issue that seeks attention. The more financially capable people are, the more effectively they can manage their finances. Financial education often associated with increasing knowledge, a combination of information, building skills, and motivation to make the desired changes in behaviour. There is evidence that financial capability strongly influenced by financial behaviour (Mandigma, 2013). Providing financial education alone is not enough (OECD, 2010). Building financial capability goes beyond classroom teaching. Its ultimate aim is to increase financial knowledge, skills and confidence that results in behaviour modification in a positive direction which ultimately contributes towards the individual's financial wellbeing (Kareen Smith, 1995).

Visa Malaysia has teamed up with AKPK to raise the level of financial literacy in the country. Despite the number of programs, initiatives and various strategies being introduced by educators, private and public agencies, the number of individuals who had attended debt counseling services had also increased from 229,334 individuals in the year 2013 to 380,433 individuals as of October 2015 (Malaysia Department of Insolvency, 2015). This alarming 65.89 percent increase in seeking financial counseling raises a question: Are the efforts to educate the Malaysian public on financial literacy truly improving the participants' overall financial wellbeing?



In answering the above research gap question, almost all financial literacy programs were funded by funding agencies and the educators are liable to report the number of programs delivered, the number of participants attended and the impact it created (Lyons, Palmer, Jayaratne, & Scherpf, 2006). Impact assessments need educators' capability to carry out the intervention effectively and to analyse the degree of the program impact. It needs time intervals, manpower and additional resources to do pre and posttest evaluations. Because these resources and the evaluation ability are limited, it's a challenge for educators to conduct more effective and rigorous intervention studies (Lyons, Chang, & Scherpf, 2006).

The 2008 National Research Symposium on Financial Literacy and Education in Washington DC, focused on behavioural and consumer economics, financial risk assessment, and financial education evaluation. Twenty nine experts were call in to the symposium to summarize the existing research findings in financial literacy and education, to identify gaps in the literature. Two amongst the few suggestions made during the Symposium was 1) to apply theory-based financial education programs focusing on behaviour modifications and 2) to use mixed method design to explore important issues and factors on consumer financial behaviors that are not addressed by quantitative research (Financial Literacy and Education Commission, 2008).

According to Lyons and Palmer (2008), though a number of theoretical frameworks have been drawn to explain how financial education can be applied to facilitate behavior change, yet there is still disconnect between theory and practice. They further explained that theory provides perception, and a baseline, for what consumers should be doing in practice. They also reckoned that educators are likely abandoning theories to the disadvantage of consumers' financial well-being even though opportunities are aplenty for researchers to test different theories to see if these tested theories can be used to predict future financial behavior to identify more appropriate educational interventions (Lyons & Palmer, 2008). Therefore, in order to better understand the decision making process by the consumers' financial behaviour and to bridge the gap between theory and practice, a Family Resource Management Logic Model study framework incorporating the theory of Planned Behaviour and the Transtheoretical Model of Behaviour Change (TTM) is proposed to act as a guide to understand how consumers develop positive behaviors through financial capability interventions.

To fulfill the second suggestion by the Financial Literacy and Education Commission Symposium, 2008, to explore the issues and factors on consumer financial behaviors, an explanatory mixed method (quantitative and qualitative) design was used to supplement the quantitative data.

In an attempt to tackle the above practical, research and theoretical gaps, this study adapted the pragmatic (practical) philosophical worldview assumptions which focused on problem solving and reforms that may change the lives of the participants (Creswell, 2009). Applying the financial coaching process in a multi-session financial capability intervention program, may improve the financial management practice of

the respondents to achieve financial wellbeing (Collins, 2012). The initial assessment and evaluation of the financial planning process determined the baseline financial capability and financial wellbeing of the respondents. The outcome effect is measured with the combination of participatory action research, and randomized controlled pre-test-post-test experimental design. Improvement in financial knowledge, competency and confidence concluded the effectiveness of the program.

Hence, this research intended to evaluate the impact of a financial capability coaching program bearing in mind all the research priorities and the critical research gaps in the literature.

### **1.3 Research Questions**

Based on the problem statements of this research, the following research questions were formulated.

1. Is there any significant difference in the levels of financial capability constructs (knowledge, skills and confidence) of the medical practitioners in the intervention group compared to those in the control group before and after a four-month financial capability intervention program?
2. Is there any significant difference in the levels of financial capability of the medical practitioners (intervention and control groups) before and after a four-month financial capability intervention program?
3. Is there any significant difference between the levels of perceived financial wellbeing of the medical practitioners (intervention and control groups) before and after a four-month financial capability intervention program?
4. Is there any significant difference between the levels of financial practice of the medical practitioners in the intervention group compared to those in the control group before and after a four-month financial capability intervention program?
5. Is there any relationship between the levels of financial capability constructs (knowledge, skills and confidence), financial capability and financial practice of medical practitioners with their level of perceived financial wellbeing before and after a financial capability intervention program?
6. Is there a change in the financial behavioural stage (pre-contemplation, contemplation, preparation, action, and maintenance) of the medical practitioners before and after attending a four-month financial capability intervention program?
7. To what extent does the qualitative exploring support the quantitative findings on the effect of a financial capability intervention program on the financial wellbeing of medical practitioners?

## **1.4 Research Objectives**

The main objective of this study is to determine the effect of a financial capability intervention program on the financial wellbeing of medical practitioners in public hospitals in Selangor.

### **1.4.1 Specific Objectives**

The specific aims of the study are:

1. to determine the significant difference in the levels of financial capability constructs (knowledge, skills and confidence) of the medical practitioners in the intervention group compared to those in the control group before and after a four-month financial capability intervention program.
2. to identify the statistically significant difference in the levels of financial capability of the medical practitioners (intervention and control groups) before and after a four-month financial capability intervention program.
3. to determine the significant difference between the levels of perceived financial wellbeing of the medical practitioners (intervention and control groups) before and after a four-month financial capability intervention program.
4. to determine the significant difference between the levels of financial practice of the medical practitioners in the intervention group compared to those in the control group before and after a four-month financial capability intervention program.
5. to examine the relationship between the levels of financial capability constructs (knowledge, skills and confidence), financial capability and financial practice of medical practitioners with their level of perceived financial wellbeing before and after a financial capability intervention program.
6. to identify the change in the financial behavioural stage (pre-contemplation, contemplation, preparation, action, and maintenance) of the medical practitioners before and after attending a four-month financial capability intervention program.
7. to explore to gain further descriptive elaboration on the effect the financial capability intervention program created on the financial wellbeing of the medical practitioners.

## 1.5 Research Hypotheses

In this study, alternate hypotheses were formulated in seeking to answer the above seven research questions.

- Ha1: There were three alternative hypotheses presented for the above research question (RQ1) as follows:
- Ha1 (i): There is a significant increase in the level of financial knowledge of the medical practitioners in the intervention group compared to those in the control group before and after a four-month financial capability intervention program.
  - Ha1 (ii): There is a significant increase in the level of financial skill of the medical practitioners in the intervention group compared to those in the control group before and after a four month financial capability intervention program.
  - Ha1 (iii): There is a significant increase in the level of financial confidence of the medical practitioners in the intervention group compared to those in the control group before and after a four month financial capability intervention program.
- Ha2: There is a statistically significant increase in the level of financial capability of the medical practitioners in the intervention group compared to those in the control group after a four month financial capability intervention program.
- Ha3: There is a significant increase in the level of perceived financial wellbeing of the medical practitioners in the intervention group compared to those in the control group after a four month financial capability intervention program.
- Ha4: There is a significant increase in the level of financial practice of the medical practitioners in the intervention group compared to those in the control group before and after a four month financial capability intervention program.
- Ha5: There were five alternative hypothesis presented for the research question 5 (RQ5) as follows:
- Ha5 (i): There is a significant relationship between the level of financial knowledge of the medical practitioners and their level of perceived financial wellbeing before and after a financial capability intervention program.
  - Ha5 (ii): There is a significant relationship between the level of financial skill of the medical practitioners and their level of perceived financial wellbeing before and after a financial capability intervention program.
  - Ha5 (iii) There is a significant relationship between the level of financial confidence of the medical practitioners and their level of perceived financial wellbeing before and after a financial capability intervention program.
  - Ha5 (iv): There is a significant relationship between the levels of financial capability and perceived financial wellbeing of the medical practitioners before and after a financial capability intervention program.

- Ha5 (v): There is a significant relationship between the levels of financial practice and perceived financial wellbeing of the medical practitioners before and after a financial capability intervention program.
- Ha6: There was a significant desirable positive financial behaviour stages of change between those medical practitioners who participated in the financial capability program (intervention group) and those who did not (control group).

There is no hypothesis formulated for research question seven (7) as there are no hypotheses to be tested as the qualitative findings will serve as a descriptive elaboration to complement the quantitative data.

## **1.6 Significance of the Study**

This study contributed to the field of family economics and management, personal financial management, economics and human resource by providing empirical evidence that financial wellbeing is influenced by financial knowledge and understanding, skills and competence, and confidence and attitudes (OECD & INFE, 2010). Besides these, practice and behavior are significant indicators of financial wellbeing. This study therefore identified that building financial capability through coaching improved medical practitioners' financial management skills which not only had immediate effects on their financial wellbeing, but also on their financial behaviours. The program promoted financial capability based on individual needs and financial situation rather than a 'fit for all program'. In this way each and every participant's pre-program (pre-test) evaluation outcomes acted as the baseline to set achievable goals within the four month coaching time frame and determined the factors influencing the financial decision making. Exploring and identifying the factors influencing the financial decision making positioned them to make more informed financial decisions. These financial decision making and control practices are ever more important today, due to changes in the financial environment, technology and the increasing number of dual-income families. Therefore, this research contributes to a deeper understanding of self, family and society.

Financial education programmes help change people's attitudes and behaviour to make more effective decisions about their personal finances in order to deal with financial challenges. In Malaysia, the youth lack formal financial education and this has resulted in an increase number of bankruptcy rate within the first five years of the start of their career. They spend more than they earn through the use of credit (AKPK, 2011). In tackling this issue, the Malaysian government has taken the initiative to integrate financial education into the national primary school curriculum to improve the relatively low level of financial knowledge and to develop sound personal financial management skills among the young (BNM 2013). This study has proven that financial education alone is not enough, it has to be incorporated with motivations and monitoring to build financial capability and positive financial behavior. The

baseline assessment and evaluation act as the starting point to identify weak areas of behavior and programs can be set to improve these targeted areas.

## **1.7 Limitation in the Study**

The present study has certain limitations that ought to be addressed.

Time was the major limitation to this study. Be it, the four month duration of the study, recruitment of participants, the two hours allocated coaching time for each participant, the medical practitioners unpredictable working time schedule and the available resource room 8am to 5pm operating time, all can contribute to the limiting time factors of this study.

The second limitation concerned is the bias response to survey questions. The tendency of study participants to fill up the financial data (balance sheet) as well as answering the interview questions in a manner that will be viewed favourable by the interviewee pose a possible threat to the validity of this study. This social desirability bias response can lead to over-reporting favourable behavior or under-reporting undesirable behavior.

The third limitation was the attrition of the respondents in the treatment group. Medical practitioners are very busy individuals and constantly educating themselves. As they move up their rank or further their studies, they are transferred to other public hospitals for new positions or for further trainings. Therefore this is anticipated that attrition of the treatment group is unavoidable.

Detailed limitations in the current study that could serve as a guide for future research is discussed in Chapter 5 (subsection 5.6)

## **1.8 Definition of the Terms**

The conceptual and operational terms used in this study are as follows:

### **1.8.1 Financial Capability**

#### ***Conceptual Definition***

Financial Capability is defined as “the capacity, based on knowledge, skills, and access, to manage financial resources effectively” (President’s Advisory Council’s 2015). Similarly, the Canadians defined financial capability as a three-dimensional construct covering: financial knowledge and understanding; financial skills and

competence as well as financial attitude and responsibility (Arrow smith, 2008). It is also defined in behavioral terms with an additional four discrete aspects (managing money, planning ahead, making choices and staying informed) by the The Financial Services Authority, United Kingdom (FSA, 2004).

### ***Operational Definition***

Financial capability is operationally defined as a three elemental construct (financial knowledge, financial skills and financial confidence) in four individual domains (managing money, planning ahead, making choices and staying informed). In its behavioural terms, the three constructs of financial capability are identified as knowledge and understanding; skills and competency; attitude and confidence. These constructs and domains are the key elements in this study.

### **1.8.2 Financial Practice**

#### ***Conceptual Definition***

Financial practices is a set of behaviours involving planning and implementing which involves cash, credit, investments, risk management, retirement and general management practices (Anderson, Zhan, & Scott, 2004). Sherraden, Courchane and Zorn conclude that financial difficulties arising from poor financial practices which not only affects a household's balance sheet, but it also affects the social, emotional and physical wellbeing of that family (M Courchane & Zorn, 2005; M. Sherraden, 2008)

#### ***Operational Definition***

Financial practices in this study was defined as a set of behaviours involving managing money, planning ahead, choosing products and staying informed. It covers areas on budgeting, setting goals, making financial plans, investing, understanding and comparing products, seeking information and monitoring financial products.

### **1.8.3 Financial Behaviour Stages**

#### ***Conceptual Definition***

Behaviour change involves progressing through a series of stages (pre contemplating, contemplating, preparation, action and maintenance) with individuals commonly relapsing before successfully giving up negative behaviours and engaging in positive behaviours. To establish the key benchmarks (i.e., thirty days or six months) and to identify the stage at which individuals are ready and able to change their behaviour,

researchers and practitioners apply appropriate educational interventions tailored to meet individuals' specific needs at that stage (Prochaska, Diclemente, & Norcross, 1992).

### ***Operational Definition***

The impact of the financial capability program on the participants' financial behaviour is evaluated on four areas; managing money, planning ahead, making choices and staying informed. The stages of change (the readiness of a participant to take action to move from one stage to another) captures the participants' behavior stage before and after the four month financial capability intervention program.

## **1.8.4 Financial Wellbeing**

### ***Conceptual Definition***

Joo (2008) defined financial wellbeing as a state of being healthy, happy and free from financial worries and the overall satisfaction with one's financial situation is often used as a measure of financial wellbeing. Subjective financial wellbeing measures satisfaction as perceptions.

### ***Operational Definition***

In this study, satisfaction in one's financial situation is used as subjective measures of financial wellbeing. Similar to other researchers (Mokhtar, Husniyah, Sabri, & Talib, 2015; Xiao, 2008), the term financial satisfaction and financial wellbeing are used interchangeably in this study. The research instrument for perceived financial wellbeing measure is a twelve item questionnaire that measures financial wellbeing in five scaled Likert scale (very dissatisfied, dissatisfied, neutral, satisfied and very satisfied). Higher scores indicate higher financial wellbeing level.

## **1.9 Organisation of the Study Chapters**

The composition of this research is made up of five chapters. The following summarises each chapter as a point of reference.

**Chapter One** provides the overview of the study by detailing the background of the research, the aims and the rationale behind the study. It also elaborates the significance of the study and how it will contribute to the body of knowledge in the field of study. Formulation of research questions, the main and specific objectives of the study, the assumed hypotheses as well as the conceptual and operational definition of the variables used are all discussed in this chapter.



**Chapter Two** discusses the literature related to the theories, models, and concepts in the study. A range of literature on financial capability, evaluation and effectiveness on financial coaching, financial behaviour as well as financial wellbeing were synthesized to provide a core understanding of the study. In addition, this chapter explains the theoretical framework and the proposed ‘logic model coaching and evaluation framework’ in detail.

**Chapter Three** gives a description and justification of the research design, research methodology, detailed procedures of the study such as target sample, sample size, sampling techniques, data collection techniques, processing and analytical procedures.

**Chapter Four** presents the findings of the study and discusses the findings of the study on the literature.

**Chapter Five** presents the summary, the limitations, implications, recommendations and areas for future research.

#### **1.10 Chapter Summary**

This chapter provided a brief introduction of the background of the study, followed by problem statement, research questions, objectives and hypotheses of the study. The significance and limitations of the study as well as the organization of the study chapters are also discussed.

## REFERENCES

- Aidalina M., & Aniza I. (2015). Factors associated with the brain-drain phenomenon of doctors from the public sector to the private sector in Selangor and Kuala Lumpur. *International Journal of Public Health and Clinical Sciences*, 2(1), 46–60.
- Ajzen, I. (1980). *Understanding the attitudes and predicting social behavior*. Englewood Cliffs, New Jersey: Prentice-Hall Inc.
- Ajzen, I. (1987). Attitudes, Traits, and Actions: Dispositional Prediction of Behavior in Personality and Social Psychology. *Advances in Experimental Social Psychology*, 20(C), 1–63.
- Ajzen, I., & Driver, B. E. (1992). Application of the Theory of Planned Behaviour to Leisure Choice. *Journal of Leisure Research*, 24, 207–224.
- Ajzen, I., & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control. *Journal of Experimental Social Psychology*, 22(5), 453–474.
- Ajzen Icek. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Al-Najjar, J. (2008). Yemeni doctors' stress can affect their quality of care. *Yemen Times; Sanaa Newspaper*, p. April 14.
- Anderson, S. G., Zhan, M., & Scott, J. (2004). Implimentation Issues in Developing Financial Management Training for Low Income Audiences: Recruitment, Delivery and Retention. *The Journal of Consumer Education*, 22.
- ASIC. (2011). *Financial literacy and behavioural change*. Retrieved from <http://www.financialliteracy.gov.au/media/218309/financial-literacy-and-behavioural-change.pdf>
- Atkinson, A., & Kempson, E. (2008). Measuring and improving financial capability : Designing an approach for Kenya. *Personal Finance Research Centre, University of Bristol*.
- Atkinson, A., Mckay, S., Kempson, E., & Collard, S. (2006a). Consumer research 47: Levels of Financial Capability in the UK: Results of a baseline survey *Financial Services Authority, London, United Kingdom*.
- Atkinson, A., Mckay, S., Kempson, E., & Collard, S. (2006b). Levels of Financial Capability in the UK: Results of a baseline survey. *Financial Services Authority, London, United Kingdom*.

- Atkinson, A., McKay, S., Kempson, E., & Collard, S. (2006). Levels of Financial Capability in the UK: Results of a baseline survey. *Consumer Research*, (March), 144. Retrieved from <http://www.fsa.gov.uk/pubs/consumer-research/crpr47.pdf>
- Atkinson, A., & Messy, F.A. (2012). *Measuring Financial Literacy results of the oecd / international network on financial education (infe) pilot study* (no. 15). *oecd Working Papers on Finance, Insurance and Private Pensions*. <https://doi.org/10.1787/20797117>
- Atkinson A. (2011). Measuring financial capability using a short survey instrument: Instruction manual, (June). *Personal Finance Research Centre*, 1-18.
- Austin, T., Hira, T. K., & Mugenda, O. M. (1999). The relationships between self-worth and financial beliefs, behavior and satisfaction. *Journal of Family and Consumer Sciences*, 91(4), 76–82.
- Bagwell, S., Hestbaek, C., Harries, E., & Kail, A. (2014). Financial capability outcome frameworks, (August).
- Baron-Donovan, C., Wiener, R. L., Gross, K., & Block-Lieb, S. (2005). Financial Literacy Teacher Training: A Multiple-Measure Evaluation. *Journal of Financial Counseling & Planning*, (5), 63–75.
- Baron, R. M., & Kenny, D. a. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Bartolini, R. (2014). The Money Jars by T Harv Eker. Retrieved from <https://petikspinayinvestor.files.wordpress.com/2015/05/the-money-jars-edition-3.pdf>
- Basic Skills Agency. (2004). *Adult financial capability framework*.
- Bauer, J. W., Son, S., Hur, J., Anderson-porisch, S., Heins, R., Petersen, C., ... Wiik, N. B. (2011). *Impact Evaluation Report*.
- Becker, L. A. Effect Size ( ES ) (2000). Retrieved from file:///C:/Users/Win 7/Desktop/EffectSizeBecker.pdf
- Bell, M. M., Nelson, J. S., Spann, S. M., Molloy, C. J., Britt, S. L., Briana, S., & Goff, N. (2014). The Impact of Financial Resources on Soldiers ' Well-Being. *Journal of Financial Counseling and Planning*, 25(1), 41–52.
- Benjamin, C. Y. F., Masud, J., Hamid, T. A., & Paim, L. (2010). Financial Wellbeing of Older Peninsular Malaysians : A Gender Comparison. *Asian Social Science*, 6(3), 58–71.

- Bentler, P. M., & Speckart, G. (1979). Models of Attitude-Behavior Relations. *Psychological Review*, 86(5), 452–464. <https://doi.org/10.1037//0033-295X.86.5.452>
- Bernard M.S. van Praag. (2004). *The connexion between old and new approaches to financial satisfaction* (No. 1212). The Netherlands.
- Beutler, I. F., & Gudmunson, C. G. (2012). New Adolescent Money Attitude Scales: Entitlement and Conscientiousness. *Journal of Financial Counseling and Planning*, 23(801), 18–31.
- Bohner, G., & Schwarz, N. (2001). The construction of attitudes. *Intrapersonal Processes (Blackwell Handbook of Social Psychology)*, 436–457.
- Bratu, C. (2011). Determinants of Subjective Well-Being: A Romanian Case Study. *Economics*, 399,1-23
- Braunstein, S., & Welch, C. (2002). Financial Literacy: An Overview of Practice, Research, and Policy. *Fed. Res. Bull.*, 88, 445-457.
- Bright, R. (2011). Depression and suicide among physicians : Current Psychiatry. *Current Psychiatry*, 10(4), 16-17. Retrieved from <http://www.currentpsychiatry.com/home/article/depression-and-suicide-among-physicians/b1d152751a0bb7bf9e4c2b5aeb2a416e.html>
- Browning, M., Chiappori, P., & Weiss, Y. (2011). Family Economics, (January), 1–525.
- Bucher, J. A. (2009). Using the Logic Model for Planning and Evaluation: Examples for New Users. *Home Health Care Management & Practice*, 22(5), 325–333. <https://doi.org/10.1177/1084822309353154>
- Bulsara, C. (2015). Using a mixed methods approach to enhance and validate your research. *Notre Dame University*, 1–82. <https://doi.org/14/8/15>
- Cameron, R. (2009). A sequential mixed model research design: design, analytical and display issues.(Report). *International Journal of Multiple Research Approaches*, 3(2), 140-152.
- Campbell, D. T. & Stanley, J. C. (1963). Experimental and quasi-experimental designs for research on teaching. In N. L. Gage (Ed.), *Handbook of research on teaching* (pp. 171-246). Chicago, IL: Rand McNally. Reprinted in 1966 as *Experimental and quasi-experimental designs for research*. Boston, MA: Houghton-Mifflin.
- Campbell, A., Converse, P. E., & Rodgers, W. L. (1977). The Quality of American Life: Perceptions, Evaluations, and Satisfactions. *Canadian Journal of Political Science*, 10(4 Dec), 875–877.

- Campbell, J. (2016). Blogging for change Financial stress leads to symptoms of depression , PTSD by Jesse Campbell on May 03 , 2016.
- Center for Financial Security. (2015). Financial Coaching: Review of Existing Research. University of Wisconsin Madison. Retrieved from [http://fyi.uwex.edu/financialcoaching/files/2015/10/FinancialCoaching\\_10.1.pdf](http://fyi.uwex.edu/financialcoaching/files/2015/10/FinancialCoaching_10.1.pdf)
- CFPB. (2015). *Financial well-being : The goal of financial education*.
- CFPB. (2016). *Financial coaching: A strategy to improve financial well-being*. Retrieved from [http://s3.amazonaws.com/files.consumerfinance.gov/f/documents/102016\\_cfpb\\_Financial\\_Coaching\\_Strategy\\_to\\_Improve\\_Financial\\_Well-Being.pdf](http://s3.amazonaws.com/files.consumerfinance.gov/f/documents/102016_cfpb_Financial_Coaching_Strategy_to_Improve_Financial_Well-Being.pdf)
- CFPB Practitioner Brief. (2016). *Implementing financial coaching: Implications for practitioners Practitioner Brief*. Retrieved from [http://s3.amazonaws.com/files.consumerfinance.gov/f/documents/102016\\_cfpb\\_Implementing\\_Financial\\_Coaching\\_Implications\\_for\\_Practitioners.pdf](http://s3.amazonaws.com/files.consumerfinance.gov/f/documents/102016_cfpb_Implementing_Financial_Coaching_Implications_for_Practitioners.pdf)
- Chan, P., Cohen, P., Hattamer, K., Hoagland, E., & McGuinness, E. (2015). Tracking financial capability: Build your logic model, (January). Retrieved from [http://cfed.org/assets/pdfs/Build\\_Your\\_Logic\\_Model.pdf](http://cfed.org/assets/pdfs/Build_Your_Logic_Model.pdf)
- Cheah, D. T. E. (2005, May 11). End of locums for Government Doctors? *New Straits Times (Malaysia)*.
- Chen, H., & Volpe, R. P. (2002). Gender Difference in Personal Financial Literacy Among College Students. *Financial Services Review*. [https:// doi. org/ 10.5897/AJBM10.1267](https://doi.org/10.5897/AJBM10.1267)
- Chuan, C. S., Kai, S. B., & Kok, N. K. (2011). Resource transfer and financial satisfaction: A preliminary correlation analysis. *Journal of Global Business and Economics*, 3(1), 146–156.
- Chuan, C. S., Seong, L. C., & Chau, W. H. (2014). Financial Satisfaction , Resource Transfers and Bequest Motives A mong Malaysia ’ s Urban Older Adults. *Proceedings Book of ICETSR, Handbook on the Emerging Trends in Scientific Research*, 8(8), 106–129.
- Collard, S., Mata, A. de la, Frade, C., Kempson, E., Leskinen, J., Lopes, C., ... Seloosse, C. (2006). Consumer Financial Capability: Empowering European Consumers. *European Credit Research Institute*, (November 2005), 1–107. Retrieved from [http://ecri.eu/new/system/files/FinCap\\_Workshop\\_I\\_papers.pdf#page=44](http://ecri.eu/new/system/files/FinCap_Workshop_I_papers.pdf#page=44)
- Collins, J. M. (2013). The impacts of mandatory financial education: Evidence from a randomized field study. *Journal of Economic Behavior & Organization*, 95(0), 146–158. [https://doi.org/http://dx.doi.org/ 10.1016/j. jebo.2012.08.011](https://doi.org/http://dx.doi.org/10.1016/j.jebo.2012.08.011)

- Collins, J. M., Christi, B., & Rochelle, G. (2007). *Financial Coaching: A New Approach for Asset Building? Annie E. Casey Foundation*. Retrieved from [http://caseyfoundation.com/~media/Pubs/Topics/Economic\\_Security/Other/FinancialCoachingANewApproachforAssetBuilding/financial\\_coaching\\_nov20.pdf](http://caseyfoundation.com/~media/Pubs/Topics/Economic_Security/Other/FinancialCoachingANewApproachforAssetBuilding/financial_coaching_nov20.pdf)
- Collins, J. M., Madison, W., Security, F., Extension, C., & Olive, P. (2011). Promoting Financial Capability Building Services With Families in Head Start.
- Collins, J. M., & O'Rourke, C. M. (2012a). The Application of Coaching Techniques to Financial Issues. *Journal of Financial Therapy*, 3(2), 39-56
- Collins, J. M., & O'Rourke, C. M. (2012b). The Application of Coaching Techniques to Financial Issues. *Journal of Financial Therapy*, 3(2), 1-2. <https://doi.org/10.4148/jft.v3i2.1659>
- Collins, J. M., Olive, P., & O'Rourke, C. (2012). Financial Coaching 's Potential for Enhancing Family Financial Security Center for Financial Security. *Journal of Extension*, (March), 51(1), 1-8.
- Collins, M. J. (2010). A Review of Advice Models and the Demographic Determinants of Using Financial Advisors and Counselors, *Center for Financial Security WP*, 10(5), 1-25.
- Colmarbrunton. (2009). *Financial knowledge survey, Retirement Commission of New Zealand*. Retrieved from <http://www.consumeraffairs.govt.nz/legislationpolicy/policy-and-papers/research/ANZ-Retirement-commission-report.pdf>
- Coskuner, S. (2016). Understanding Factors Affecting Financial Satisfaction: The Influence of Financial Behavior, Financial Knowledge and Demographics. *Imperial Journal of Interdisciplinary Research (IJIR)*, 2(5), 377-385.
- Courchane, M., & Zorn, P. (2005). *Consumer literacy and creditworthiness. Freddie Mac*. Presented at Federal Reserve System Conference, Promises and Pitfalls: As Consumer Options Multiply, Who Is Being Served and at What Cost? Retrieved from [http://www.wdfi.org/\\_resources/indexed/site/yymm/govcouncilfinlit/presentations/ConsumerLiteracyCreditWorthinessWI-DataWIDFI.pdf](http://www.wdfi.org/_resources/indexed/site/yymm/govcouncilfinlit/presentations/ConsumerLiteracyCreditWorthinessWI-DataWIDFI.pdf)
- Cox, A., Hooker, H., Markwick, C., & Reilly, P. (2009). *Financial Well-being in the Workplace. Institute for Employment Studies, University of Sussex, UK*.
- Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. London: Sage Publication.
- Creswell, J. W. (2014). The selection of a research approach. *Research Design, Qualitative, Quantitative and Mixed Methods Approaches*. London: Sage Publication.

- Creswell, J. W., & Plano Clark, V. L. (2007). Choosing a Mixed Method Design. In *Designing and Conducting Mixed Methods Research* (pp. 58–89). <https://doi.org/1412927927>
- Cronbach, L. J. (1990). *Essentials of Psychological Testing* (5th Edition). New York: Harper Collins.
- Danes, S. M., Huddleston-casas, C., & Boyce, L. (1997). Financial Planning Curriculum For Teens : Impact Evaluation. *Financial Planning Curriculum For Teens*, 10(612), 26–39.
- Danes, S. M., & Yang, Y. (2014). Assessment of the use of theories within the Journal of Financial Counseling and Planning and the contribution of the family financial socialization conceptual model. *Journal of Financial Counseling and Planning*, 25(1), 53–68.
- Davis, E. P., & Helmick, S. A. (1985). Family Financial Satisfaction: The Impact of Reference Points. *Family and Consumer Sciences Research Journal*, 14(1), 123–131. <https://doi.org/10.1177/1077727X8501400112>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance. *MIS Quarterly*, 13(3), 319–339. <https://doi.org/10.2307/249008>
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management Science*. <https://doi.org/10.1287/mnsc.35.8.982>
- Deacon, R. E., & Firebaugh, F. M. (1988). *Family resource management: Principles and applications*. Boston: Allyn and Bacon.
- De Meza, D., & Southey, C. (1996). The Borrower's Curse: Optimism, Finance and Entrepreneurship. *The Economic Journal*, 106(435), 375–386.
- DeJoy, D. M. (1996). Theoretical models of health behavior and workplace self-protective behavior. *Journal of Safety Research*, 27(2), 61–72. [https://doi.org/10.1016/0022-4375\(96\)00007-2](https://doi.org/10.1016/0022-4375(96)00007-2)
- Delafrooz, N., & Paim, L. (2011a). Personal Saving Behavior among Malaysian Employees: Socio Demographic Comparison. *International Conference on Social and Humanity*, 5, 361–363. Retrieved from <http://www.ipedr.com/vol5/no2/79-H10207.pdf>
- Delafrooz, N., & Paim, L. H. (2011b). Determinants of Saving Behavior and Financial Problem among Employees in Malaysia. *Australian Journal of Basic and Applied Sciences*, 5(7), 222–228.
- Delgadillo, L. M. (2014). Financial Clarity: Education, literacy, capability, counseling, planning, and coaching. *Family and Consumer Sciences Research Journal*, 43(1), 18–28. <https://doi.org/10.1111/fcsr.12078>

- Delgadillo, L. M., & Parry, T. G. (2014). Coaching Components in Individual Development Accounts: Insights and Lessons Applicable to Financial Programs. *The Forum for Family and Consumer Issues*, 19(2). Retrieved from <https://ncsu.edu/ffci/publications/2014/v19-n2-2014-summer-fall/delgadillo-parry.php>
- Denzin, N. K. and Lincoln, Y. (2005). *The Sage Handbook of Qualitative Research*. Thousand Oaks, CA: Sage Publishing.
- DeVaney, S. A., & Lytton, R. H. (1995). Household insolvency: A review of household debt repayment, delinquency, and bankruptcy. *Financial Services Review*, 4(2), 137–156. [https://doi.org/10.1016/1057-0810\(95\)90008-X](https://doi.org/10.1016/1057-0810(95)90008-X)
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*. <https://doi.org/10.1037/0033-2909.125.2.276>
- Dubofsky, D., & Sussman, L. (2009). The changing role of the financial planner part 1: From financial analytics to coaching and life planning. *Journal of Financial Planning*, 48–57. Retrieved from [https://www.kinderinstitute.com/newsarchive-pdfs/FPA\\_Journal-September\\_2009-The\\_2-Prescriptions\\_for\\_Coaching\\_and\\_Life\\_Plan.pdf](https://www.kinderinstitute.com/newsarchive-pdfs/FPA_Journal-September_2009-The_2-Prescriptions_for_Coaching_and_Life_Plan.pdf)
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. (Orlando, Ed.). Fort Worth, TX: Harcourt Brace Jovanovich College.
- Elaine Kempson, Claire Whyley, J. C. and S. C. (2000). *In or out? Financial exclusion: a literature and research review*. Retrieved from [http://www.pfrc.bris.ac.uk/Reports/In\\_or\\_out.pdf](http://www.pfrc.bris.ac.uk/Reports/In_or_out.pdf)
- Elaine Kempson, Valeria Perotti, K. S. (2013). *Measuring financial capability: questionnaires and implementation guidance for low- and middle-income countries*. *The World Bank* (Vol. 7). Retrieved from [www.finlitedu.org](http://www.finlitedu.org)
- Falahati, L., & Paim, L. H. (2011). Toward a framework of determinants of financial management and financial problems among university students, 5(22), 9600–9606. <https://doi.org/11.5897/AJBM11.1293>
- Falahati, L., Paim, L., Ismail, M., Haron, S. A., & Masud, J. (2011). Assessment of university students' financial management skills and educational needs. *African Journal of Business Management*, 5(15), 6085–6091. <https://doi.org/10.5897/AJBM10.1583>
- Falahati, L., Sabri, M. F., & Paim, L. H. J. (2012). Assessment a model of financial satisfaction predictors: Examining the mediate effect of financial behaviour and financial strain. *World Applied Sciences Journal*, 20(2), 190–197. <https://doi.org/10.5829/idosi.wasj.2012.20.02.1832>



- Farber, L. (2001a, May). A slip in net worth A slip in net worth. *Medical Economics - Personal Finance*. Retrieved from <http://medicaleconomics.modernmedicine.com/medical-economics/news/clinical/personal-finance/slip-net-worth>
- Farber, L. (2001b, June). Doctor Investors : Weathering a stormy market. *Medical Economics - Personal Finance*. Retrieved from <http://medicaleconomics.modernmedicine.com/medical-economics/news/clinical/personal-finance/doctor-investors-weathering-stormy-market?page=full>
- Federal Reserve Bank of San Francisco. (2015). *What It's Worth*. (L. Choi, D. Erickson, K. Griffin, A. Levere, & E. Seidman, Eds.).
- Financial Literacy and Education Commission. (2008). National Research Priorities for Financial Literacy in Education. In *National Research Symposium on Financial Literacy and Education*. Washington, DC 20433, USA. Retrieved from [https://www.treasury.gov/about/organizational-structure/offices/Domestic-Finance/Documents/ResearchSymposium paper 12-8-08.pdf](https://www.treasury.gov/about/organizational-structure/offices/Domestic-Finance/Documents/ResearchSymposium%20paper%2012-8-08.pdf)
- Financial Literacy Taskforce. (2013). *Enhancing financial literacy in capital market*. <http://www.comcec.org/wp-content/uploads/2015/07/4-2-Hamedi.pdf>
- Financial Services Authority. (2005). *Measuring financial capability: an exploratory study*. Retrieved from <http://www.fsa.gov.uk/pubs/consumer-research/crpr37.pdf>
- Fishbein, M., & Ajzen, I. (1975). *Believe, attitude, intention and behaviour: An introduction to Theory and Research*. readings, MA California: Addison Wesley Publishing Company. Retrieved from <http://people.umass.edu/ajzen/f&a1975.html>
- Fisher, J., Garside, M., Brock, P., Gibson, V., Hunt, K., Wyrko, Z., & Gordon, A. L. (2017). Being the “med reg”: An exploration of junior doctors’ perceptions of the medical registrar role. *Journal of the Royal College of Physicians of Edinburgh*, 47(1), 70–75. <https://doi.org/10.4997/JRCPE.2017.116>
- Frade, C., & Lopes, C. (2005). The socio-economic determinants of Consumers’ Financial Capability - Observatory of Consumers’ Indebtedness, Consumer Financial Capability. *Workshop 8 University of Coimbra, Portugal, European Credit Institute*.
- Fraenkel, J. R. and Wallen, N. E. (2006). *How to Design and Evaluate Research in Education*. (6th ed.). USA: Mc Graw-Hill, Inc.
- Frech, A., & Damaske, S. (2012). Policy brief. *Journal of Health and Social Behavior*, 53(4), 395. <https://doi.org/10.1177/0022146512469014>
- Frey, B. S., & Stutzer, A. (2001). *Happiness and Economics: How the Economy and Institutions Affect Human Well-Being*. Princeton, NJ: Oxford University Press.

- Funk, K. H. (2001). What is a worldview? Retrieved from <http://web.engr.oregonstate.edu/~funkk/Personal/worldview.html>
- Gale, W., Harris, B., & Levine, R. (2012). "Raising Household Saving: Does Financial Education Work?" *Social Security Bulletin*, 72(2). Retrieved from [www.ssa.gov/policy/docs/ssb/v72n2/v72n2p39.html](http://www.ssa.gov/policy/docs/ssb/v72n2/v72n2p39.html).
- Gamlin, B. R. (2016, February). Young doctors are jumping ship to non-clinical roles. *Medical Economics - Burnout*. Retrieved from <http://medical.economics.modernmedicine.com/medical-economics/news/young-doctors-are-jumping-ship-non-clinical-roles?page=0,0>
- Garman, E. T. (2006). Using the Personal Finance Well-Being Scale. In Charge Education Foundation and Personal Finance Employee Education Foundation.
- Garman, E. T., & Fogue, R. E. (2006). *Personal Finance -8th edition*. Retrieved from <http://www.financesitesearch.com/46074/personal-finance-by-garman-and-fogue-8th-edition-2>
- Garman, E. T., Kim, J., Kratzer, C. Y., Brunson, B. H., & Joo, S. (1999). Workplace Financial Education Improves Personal Financial Wellness. *Association for Financial Counseling and Planning Education*, (904), 79–88.
- Garman, E. T., Sorhaindo, B., Prawitz, A. D., O'Neill, B., Osteen, S., Kim, J., ... Robert L. Weisman. (2005). Development of and Norms for the InCharge Financial Distress/Financial Well-Being Scale : A Summary. *Annual, Consumer Interest*, 51, 1–6.
- Garrett, S., & James, R. N. (2013). Financial Ratios and Perceived Household Financial Satisfaction. *Journal of Financial Therapy*, 4(1). <https://doi.org/10.4148/jft.v4i1.1839>
- Gerrans, P., Speelman, C., & Campitelli, G. (2013). The Relationship Between Personal Financial Wellness and Financial Wellbeing: A Structural Equation Modelling Approach. *Journal of Family and Economic Issues*, 1–16. <https://doi.org/10.1007/s10834-013-9358-z>
- Glaser, B. G., & Strauss, A. L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research. Observations* (Vol. 1). <https://doi.org/10.2307/2575405>
- Godwin, D. D. (1994). Antecedents and Consequences of Newlyweds' Cash Flow Management. *Financial Counseling and Planning*, 5, 161–190.
- Gollwitzer, P. M. (1990). Action phases and mind-sets. In E. T. Higgins & R. M. Sorrentin (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (Volume 2, pp. 53–92). The Guilford Press, New York & London.

- Gotay, C. C., Lipscomb, J., & Snyder, C. F. (2005). Reflections on findings of the cancer outcomes measurement working group: Moving to the next phase. *Journal of the National Cancer Institute*, 97(21), 1568–1574. <https://doi.org/10.1093/jnci/dji337>
- Grant, A. M. (2001). *Towards a psychology of coaching: The impact of coaching on metacognition, mental health and goal attainment*. *Psychology*. <https://doi.org/10.2224/sbp.2003.31.3.253>
- Grant, A. M. (2003). The impact of life coaching on goal attainment, metacognition and mental health. *Social Behavior & Personality: An International Journal*, 31(3), 253.
- Gray, A. J., Uttley, M. C., & Kerbel, M. C. (2006). Outcomes of a Workplace Financial Education Program. *The Journal of Consumer Education*, 23.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing Paradigms in Qualitative Research. *Handbook of Qualitative Research*, 105–117. <https://doi.org/http://www.uncg.edu/hdf/facultystaff/Tudge/Guba%20&%20Lincoln%201994.pdf>
- Guion, L. A. T. R. F. (2010). A Conceptual Framework for Infusing Behavior Change Theories into Program Design, Delivery, and Evaluation: A Financial Education Example. Retrieved from <https://ncsu.edu/ffci/publications/2010/v15-n1-2010-spring/guion-free.php>
- Hacker, S. (2011). Doctors should learn personal finance during medical School. Retrieved from <http://www.kevinmd.com/blog/2011/08/doctors-learn-personal-finance-medical-school.html>
- Hafiz. (2010). How much a young doctor earns? Retrieved from <http://hafiz238.blogspot.my/2009/05/how-much-young-doctor-earns.html>
- Hammersley, M. (2013). *Pragmatism, paradigms, and research as reflective practice*. Greenwich. Sage publication.
- Hansen, T. (2009). *Subjective well-being in the second half of life: The influence of family and household resources*. Department of Behavioural Sciences in Medicine, Faculty of Medicine, University of Oslo, Norway.
- Hayes, D. (2014). *The relationship between mental wellbeing and financial management among older people*. Bristol. Retrieved from [www.pfrc.bris.ac.uk](http://www.pfrc.bris.ac.uk)
- Hayes, H., Parchman, M. L., & Howard, R. (2011). A logic model framework for evaluation and planning in a primary care practice-based research network (PBRN). *Journal of the American Board of Family Medicine: JABFM*, 24(5), 576–82. <https://doi.org/10.3122/jabfm.2011.05.110043>

- Heck, R. K., & Douthitt, R. A. (2009). Research modelling implications of conceptual framework in family management. *Journal of Consumer Studies and Home Economics*, 6(3).
- Henry, R., Mavis, B., Sleight, D., & Williamson, J. (2006). Evaluating Educational Program : A Planning Tool.
- Hilgert, M. A., & Hogarth, J. M. (2003). Household Financial Management: The Connection between Knowledge and Behavior, 89(July).
- Hilgert MA, Hogarth JM, B. S. (2003). Household financial management: The connection between knowledge and behavior. *Fed. Reserve Bull.*
- Hira, T.K., Fanslow, A.M. & Titus, P. M. (1989). Changes in financial status influencing level of satisfaction in households. *Journal of Family Economics*, 10(2), 107–121. <https://doi.org/DOI: 10.1007/BF00988532>
- Hira, T. K., & Mugenda, O. M. (1999). Do men and women differ in their financial beliefs and behaviours? In *Proceedings of Eastern family Economics resource Management Association* (pp. 1–8).
- HM Treasury. (2007). *Financial inclusion: an action plan for 2008-11*. <https://doi.org/ISBN 978-1-84532-384-4>
- Hogarth, J. M. (2007). *The Federal Reserve System's Role in Economic and Financial Literacy –Rationale, Activities, and Impact* (Vol. 1).
- Holzmann, R., Mulaj, F., & Perotti, V. (2013a). *Financial capability in low- and middle-income countries: Measurement and Evaluation*. World Bank, Washington, DC 20433.
- Holzmann, R., Mulaj, F., & Perotti, V. (2013b). *Financial capability in low- and middle-income countries: measurement and evaluation. A report on the World Bank's research program and the knowledge from the Russia Financial Literacy and educa.*
- Hung, A., Parker, A. M., & Yoong, J. K. (2009). Defining and Measuring Financial Literacy. *RAND Corporation Publications Department, Working Papers, 708*, 28 pp. <https://doi.org/10.2139/ssrn.1498674>
- Hung, A., Yoong, J., & Brown, E. (2012). Empowering Women Through Financial Awareness and Education. *OECD Working Papers on Finance, Insurance and Private Pensions*, (14). Retrieved from <http://www.finlitedu.org/team-downloads/evaluation/hung-yoong-brown-2012pdf.pdf>
- Ibrahim, D., Harun, R., & Mohamed Isa, Z. (2009). A Study on Financial Literacy of Malaysian Degree Students. *Cross-Cultural Communication*, 5(4), 51–59.

- INFE. (2010). Detailed Guide to Evaluating Financial Education Programmes. Retrieved from <https://www.oecd.org/finance/financial-education/49994090.pdf>
- INFE. (2013). OECD/INFE set of criteria, principles, guidelines and policy guidance to improve financial education. Retrieved from [https://www.oecd.org/daf/fin/financial-education/TrustFund2013\\_OECD\\_INFE\\_Measurement\\_Evaluation\\_Tools\\_Finl\\_Ed.pdf](https://www.oecd.org/daf/fin/financial-education/TrustFund2013_OECD_INFE_Measurement_Evaluation_Tools_Finl_Ed.pdf)
- Ivankova, N. V., Creswell, J. W., & Sheldon L. Stick. (2006). Using Mixed-Methods Sequential Explanatory Design: From Theory to Practice. *Field Methods*, 18(1), 3–20. <https://doi.org/10.1177/1525822X05282260>
- Jacob, F. (1988). The Five-Tiered Approach to Evaluation: Context and Implementation. In H. B. Weiss & F. H. Jacobs (Eds.), *Evaluating family programs*, New York: Aldine DeGruyter Publishers.
- Janor, H., Yakob, R., Hashim, N. A., & Che Wel, C. A. (2016). Financial literacy and investment decisions in Malaysia and United Kingdom: A comparative analysis. *Malaysian Journal of Society and Space*, 12(2), 106–118.
- Jayarathne, K. S. U., Lyons, A. C., & Palmer, L. (2010). Financial Education evaluation manual.
- Joanne, Y., Mihaly, K., Bauhoff, S., Rabinovich, L., Hung, A., & Kempson, E. (2013). *A toolkit for the evaluation of financial capability programs in low- and middle-income countries* World Bank, Washington, DC.
- Jones, B. (2010). *The Future Of Financial Education Report on the 2011 Fcac-Oecd Conference On Financial Literacy. Employee Benefits*.
- Jones, S. R. (2003). An introduction to power and sample size estimation. *Emergency Medicine Journal*, 20(5), 453–458. <https://doi.org/10.1136/emj.20.5.453>
- Joo, S. (2008). Personal financial wellness. *Handbook of Consumer Finance Research*. [https://doi.org/10.1007/978-0-387-75734-6\\_2](https://doi.org/10.1007/978-0-387-75734-6_2)
- Joo, S., & Grable, J. E. (2004). An Exploratory Framework of the Determinants of Financial Satisfaction. *Journal of Family and Economic Issues*, 25(1 March), 25–50. <https://doi.org/10.1023/B:JEEI.0000016722.37994.9f>
- Kareen Smith. (1995). *Introduction to Positive Ways of Intervening with Challenging Behavior*. Minneapolis. Retrieved from <http://www.cehd.umn.edu/ceed/publications/tipsheets/preschoolbehavior/tips.pdf>
- Kemmis, S., & McTaggart, R. (2007). Participatory action research: Communicative action and the public sphere. In Y. S. (Eds. Denzin, N. K., & Lincoln (Ed.), *Strategies of qualitative inquiry* (pp. 271–330). Sage Publications, Incorporated. <https://doi.org/10.1080/09650790600975593>

- Kempson, E. (2009). Framework for the Development of Financial Literacy Baseline Surveys, (1), 32. <https://doi.org/10.1787/5kmdpz7m9zq-en>
- Kempson, E., & Atkinson, A. (2008). Delivery Models for Financial Literacy Interventions: A Case Study Approach SEDI 2008. SEDI.
- Kempson, E., Valeria, P., & Kinnon, S. (2013). *Measuring financial capability: a new instrument and results from low- and middle-income countries*.
- Kempson, Perotti, & Scott. (2013). financial capability: a new instrument and results from low- and middle-income countries, (June).
- Kerkmann, B. C. (1998). Motivation And Stages Of Change In Financial Counseling : An Application Of A Transtheoretical Model From Counseling Psychology. *Financial Counseling and Planning*, 9, 13–20.
- Key, R., & Firebaugh, F. M. (1989). Family resource management: Preparing for the 21st century. *Journal of Home Economics*, 81(1), 13–17.
- Khalid, K. (2016). Malaysia Doctors : Compare your salary with doctors in other countries. Retrieved from <http://today.mims.com/topic/malaysia-doctors--compare-your-salary-with-doctors-in-other-countries>
- Killian, S. (2017). Turning Research Into Practical Advice-Hattie Effect Size 2016 Update. *The Australian Society for Evidence Based Teaching*. Retrieved from <http://www.evidencebasedteaching.org.au/hattie-effect-size-2016-update/>
- Kim, J. (2000). *The effects of workplace financial education on personal finances and workoutcomes*. Unpublished doctoral dissertation. Virginia Polytechnic Institute & State University: Blacksburg, VA.
- Kim, J., & Garman, E. T. (2004). Financial Stress, Pay Satisfaction and Work place Performance. *Compensation & Benefits Review*, 36(February), 69–76. <https://doi.org/10.1177/0886368703261215>
- Kim, J., Garman, E. T., & Sorhaindo, B. (2003). Relationships among credit counseling, clients' financial well-being, financial behaviors, financial stressor events, and health. *Financial Counseling and Planning*, 14(2), 75–87.
- Kim, & Garman, E. T. (2003). Financial education and advice change worker attitudes and behaviors. *Journal of Compensation and Benefits*, 19(5), 7–13.
- Kinder, G., & Galvan, S. (2013). Psychology and Life Planning. *Journal of Financial Planning*, 11(273), 463–464. <https://doi.org/10.1126/science.11.273.463>
- Knoll, M. (1974). French Lick - Twelve years later. Actualizing concepts in home management. In *Proceedings of a national conference*. Washington, DC: American Home Economics Association.

- Ladd, S., & Jernigan, J. (2006). Evaluation Guide: Developing and Using a Logic Model Evaluation Guide. Retrieved from [http://www.cdc.gov/dhdsp/programs/nhdsp\\_program/evaluation\\_guides/docs/logic\\_model.pdf](http://www.cdc.gov/dhdsp/programs/nhdsp_program/evaluation_guides/docs/logic_model.pdf)
- Lauderdale, M., & Huston, S. J. (2012). Financial Therapy and Planning for Families with Special Needs Children. *Journal of Financial Therapy*, 3(1), 62–81. <https://doi.org/10.4148/jft.v3i1.1494>
- Lawn, J. M. (2007). Measuring Financial Planning Personality Type:Based on the Stages of Change. *The Journal of Consumer Education*, 24(1998). Retrieved from file:///C:/Users/Win7/Desktop/MeasuringFinancialPlanning Personality .pdf
- Leach, J., & Moon, B. (2000). Pedagogy , information and communications technology and teachers ' professional knowledge. *The Curriculum Journal*, 11(3), 385–404.
- Lee, N. (2013). What is financial literacy , and does financial literacy education achieve its objectives ? Evidence from banks , government agencies and financial literacy educators in England. Retrieved from <http://www.academyfinancial.org/wp-content/uploads/2013/10/E4-Lee.pdf>
- Lerman, C., Biesecker, B., Benkendorf, J. L., Kerner, J., Gomez-Camirero, a, Hughes, C., & Reed, M. M. (1997). Controlled trial of pretest education approaches to enhance informed decision-making for BRCA1 gene testing. *Journal of the National Cancer Institute*, 89(2), 148–57. <https://doi.org/10.1093/jnci/89.2.148>
- Leskinen, J., & Raijas., A. (2005). *Consumer financial capability - a life cycle approach*.
- Lian, K. S. (2010). Central Bank of Malaysia Financial Consumer Protection in Malaysia AFI Global Policy.
- Lieber, R. (2011, August 26). Investment Advice for Doctors: First , Do No Harm. *The New York Times*. New York. Retrieved from [http://www.nytimes.com/2011/08/27/your-money/investment-advice-for-doctors-first-do-no-harm.html?\\_r=1](http://www.nytimes.com/2011/08/27/your-money/investment-advice-for-doctors-first-do-no-harm.html?_r=1)
- Logasvathi, M. (2016). The Level of Understanding and Strategies to Enhance Financial Literacy among Malaysian, 6, 130–139.
- Loibl, C., & Hira, T. K. (2005). Self-directed Financial Learning and Financial Satisfaction, 11–21.
- Lusardi, A. (2011). *Americans' financial capability* (No. NBER Working Paper No. 17103). Washington, DC 20037.

- Lusardi, A., & Mitchell, O. S. (2007). Financial Literacy and Retirement Preparedness: Evidence and Implications for Financial Education. *Business Economics*, 42(January), 35–44. <https://doi.org/10.2145/20070104>
- Lusardi, A., Mitchell, O. S., & Curto, V. (2010). *Financial Literacy among the Young : Evidence and Implications for Consumer Policy*.
- Lyons, A. C. (2005). Financial Education and Program Evaluation: Challenges and Potentials for Financial Professionals. *Journal of Personal Finance*, 4(4): 56-68.
- Lyons, A. C. (2005c). Working Paper Series Translating Financial Education into Behavior Change for Low-Income Populations, (11). Retrieved from <http://cee.econ.uic.edu>
- Lyons, A. C., Chang, Y., & Scherpf, E. M. (2006). Translating Financial Education into Behavior Change for Low-Income Populations. *Journal of Financial Counseling and Planning*, 17(2), 27–45. Retrieved from [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2232122](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2232122)
- Lyons, A. C., Palmer, L., Jayaratne, K. S. U., & Scherpf, E. (2006). Are We Making the Grade? A National Overview of Financial Education and Program Evaluation. *Journal of Consumer Affairs*, 40(2), 208–235.
- Lyons, A. C., & Scherpf, E. (2003). An Evaluation of the FDIC ' s Financial Literacy Program Money Smart, (May).
- Malaysia Department of Insolvency. (2015). *Causes of Bankruptcy from 2005 - 2012*. Retrieved from <http://dspace.unimap.edu.my:80/xmlui/handle/123456789/40117>
- Malaysian Medical Council. (2006). Ethical Implications of Doctors in MMC. Guideline 005/2006.
- Mandell, L., & Klein, L. S. (2007). Motivation and financial literacy, 16, 105–116.
- Mandigma, M. B. S. (2010). Assessing the financial capability ( FC ) of academic personnel in a Philippine comprehensive university, 1–11.
- Mandigma, M. B. S. (2013). Relationship of Financial Capability ( FC ) With Knowledge , Skills and Attitude : Evidence from Philippine Comprehensive University. *World Journal of Social Sciences*, 3(3), 28–45. Retrieved from <http://www.wjsspapers.com/static/documents/May/2013/4>.
- Margaret, M., Reichelstein, J., Salas, C., & Zia, B. (2014). *Can You Help Someone Become Financially Capable ? A Meta-Analysis of the Literature* (No. JEL Codes: D12, D14, I22, O12 Sector Board: FSE 1).
- Martin, M. (2007). *A Literature Review on the Effectiveness of Financial Education* (No. Working Paper No. 07-03).



- McCawley, P. F. (2001). The Logic Model for Program Planning and Evaluation. Cooperative Extension, University of Idaho, Moscow. Retrieved from [https://www.researchgate.net/publication/237568681\\_The\\_Logic\\_Model\\_for\\_Program\\_Planning\\_and\\_Evaluation](https://www.researchgate.net/publication/237568681_The_Logic_Model_for_Program_Planning_and_Evaluation)
- McFall, B. S. (1998). *Personal Resource Systems Management. Management*. Virginia Polytechnic Institute and State University in.
- McGrath, R. E., & Meyer, G. J. (2006). When effect sizes disagree: The case of  $r$  and  $d$ . *Psychological Methods*, 11(4), 386–401. <https://doi.org/10.1037/1082-989X.11.4.386>
- McGregor, S. L. T., & Goldsmith, E. B. (1998). Expanding our understanding of Quality of life, standard of living, and well-being. *Journal of Family and Consumer Science*, 90(2), 2–22.
- McKenzie, J. F., & Jurs, J. L. (1993). *Planning, Implementing, and Evaluating Health Education Programs: A Prime*. Pearson Education.
- McMahon, R. G. P. (2002). Behavioural Finance, entrepreneurial cognition and SME financial Management. Retrieved from <https://www.flinders.edu.au/sabs/business-files/research/papers/2006/06-3.pdf>
- McMillan, J. H., & Schumacher, S. (1993). *Research in education: A conceptual understanding*. New York: HarperCollins.
- Mental Health Daily. (2014, July 23). 15 Common Causes Of Suicide: Why Do People Kill Themselves. *Mental Health Blog*. Retrieved from <http://mentalhealthdaily.com/2014/07/23/15-common-causes-of-suicide-why-do-people-kill-themselves/>
- Miller, D. C. (1991). *Handbook of Research Design and Social Measurement* (5th ed.). Newbury Park, CA: Sage.
- Ministry of health, M. (2015). Health Facts 2016. Planning Division Health Informatics Centre. Retrieved from <http://www.moh.gov.my/images/gallery/publications/kkmhealthfacts2016.pdf>
- Mokhtar, N., Husniyah, A., Sabri, M., & Talib, A. (2015). Using Dollahite 's ABCD - XYZ Resource Management Model of Crisis or Stress as a Framework for Understanding Financial Well-being. *International Journal of Humanities and Social Science*, 5(4), 219–228.
- Money Coaching. (2009). *Money Coaching Program Evaluation*.
- Morrison, K. (2009). Delivery methods of financial information and sources of financial education as indicators of perceived financial well-being in South Dakota. *Dissertation Abstracts International: Section A. Humanities and Social Sciences*, 70(8), 3369868 <https://doi.org/GraduateThesesandDissertations/Paper10827>.

- Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification Strategies for Establishing Reliability and Validity in Qualitative Research. *International Journal of Qualitative Methods*, 1(2), 13–22. <https://doi.org/10.1063/1.2011328>
- Moschis, G. P., Prahasto, A. E., & Mitchell, L. G. (1986). Family Communication Influences on the Development of Consumer-Behavior - Some Additional Findings. *Advances in Consumer Research*, 13(Robertson), 365–369.
- Mugenda, O. M., Hira, T. K., & Fanslow, A. M. (1990a). Assessing the causal relationship among communication, money management practices, satisfaction with financial status, and satisfaction with quality of life. *Lifestyles*, 11(4), 343–360. Retrieved from Kluwer Academic Publishers-Human Sciences Press
- Mugenda, O. M., Hira, T. K., & Fanslow, A. M. (1990b). Assessing the causal relationship among communication, money management practices, satisfaction with financial status, and satisfaction with quality of life. *Lifestyles*, 11(4), 343–360.
- Mun, L. Y., & Rahim, R. (2011). Shocking reasons why Malaysians are living beyond their means. *The Star Online*. Retrieved from <http://www.thestar.com.my/news/nation/2011/09/22/shocking-reasons-why-malaysians-are-living-beyond-their-means/>
- Mundy, S. (2008a). Financial education programmes in schools : analysis of selected current programmes and literature draft recommendations for best practices. *OECD Journal: General Papers*. OECD.
- Mundy, S. (2008b). *Financial Education Programmes In Schools : Analysis of Selected Current Programmes and Literature Draft Recommendations For Best Practices*.
- Mundy, S. (2011). *Financial capability : Why is it important and how can it be improved? Perspective report Welcome to CfBT Education Trust CfBT and Financial Capability in Africa*.
- Murphy, J. L. (2013). Psychosocial Factors and Financial Literacy, 73(1), 73–81.
- Muske, G. A. (1996). Family financial management : a real world perspective. *Retrospective Theses and Dissertations*. 11387.
- Muske, G., & Winter, M. (2004). Personal Financial Management Education : An Alternative Paradigm. *Financial Counseling and Planning*, 15, 79–88.
- Nair, Y., Paim, L., Sabri, M. F., & Abdul Rahim, H. (2016). Predictors of Bankruptcy Probability among Malaysian Civil Servants: Examining the Subjective Measurement. *Journal of Emerging Economies and Islamic Research*, 2011(2011), 1–12. Retrieved from <http://www.jeeir.com/v2/images/Vol4No12016/Yash.pdf>

- Nastasi, B. K., & Hitchcock, J. H. (2015). *Mixed Methods Research and Culture specific interventions - Program Design and Evaluation*. (Vol. 2). SAGE Publications. (S. M. M. R. Series, Ed.).
- NEFE. (2014). The evaluation toolkit: *Presentations*. <https://toolkit.nefe.org/Portals/0/NEFE%20QuickStart%20Toolkit%20January%202014.pdf>
- NEFE. (2016). NEFE Financial Education Evaluation Manual. Retrieved from <https://toolkit.nefe.org/Portals/0/Toolkit-Manual.pdf>
- Neuman, W. L. (2014). *Social Research Methods: Qualitative and Quantitative Approaches. Relevance of social research* (Vol. 8). <https://doi.org/10.2307/3211488>
- Newsom, J. T. (2017). Lecture 14 - Correlation. Portland State University. Retrieved from <http://web.pdx.edu/~newsomj/pa551/lectur14.htm>
- Noctor, M., Stoney, S., & Stradling, R. (1992). *Financial Literacy: A Discussion of Concepts and Competences of Financial Literacy and Opportunities for its Introduction into Young People's Learning*. National Foundation for Educational Research.
- Noordin, N., Zakaria, Z., Zool, M., Mohamed, H., & Ngah, K. (2012). Bankruptcy among Young Executives in Malaysia. In *International Conference on Economics Marketing and Management* (Vol. 28, pp. 132–136). Singapore. Retrieved from <http://www.ipedr.com/vol28/26-ICEMM2012-T10012.pdf>
- O'Neill, B., Sorhaindo, B., Xiao, J. J., & Garman, E. T. (2005). Financially distressed consumers: their financial practices, financial well-being, and health. *Financial Counseling and Planning*, 16(1), 73–88.
- OECD. (2008). OECD-US Treasury International Conference on Financial Education OECD-US Treasury International Conference on Financial Education.
- OECD (2009), "Framework for the Development of Financial Literacy Baseline Surveys: A First International Comparative Analysis", *OECD Working Papers on Finance, Insurance and Private Pensions, No. 1*, OECD Publishing.
- OECD. (2008). OECD-US Treasury International Conference on Financial Education. Retrieved from <http://www.oecd.org/finance/financial-education/41207754.pdf>
- OECD. (2010). *Development Co-operation Report 2010*. Retrieved from <https://www.oecd.org/dac/44449684.pdf>
- OECD, & INFE. (2010). *Detailed Guide to Evaluating Financial Education Programmes*.

- OECD, & INFE. (2013). *OECD/INFE set of criteria, principles, guidelines and policy guidance to improve financial education*.
- Onwuegbuzie, A. J., & Collins, K. M. . (2007). A typology of mixed methods sampling designs in social science research. *The Qualitative Report*, 12(2), 474–498.
- Opong-boakye, & Kansanba, R. (2013). An Assessment of Financial Literacy Levels among Undergraduate Business Students in Ghana, 4(8), 36–50.
- Orton, L. (2007). *Financial Literacy: Lessons from International Experience*. *Financial Literacy: Lessons from Canadian Policy Research Networks*.
- Ozkan, B. C. (2004). Using NVivo to Analyze Qualitative Classroom Data on Constructivist Learning Environments. *Qualitative Report*, 9(4), 589–603.
- Ozmete, E., & Hira, T. (2011). Conceptual Analysis of Behavioral Theories / Models : Application to Financial Behavior. *European Journal of Social Sciences*, 18(3).
- P.W and Eaton, D. I. (2014). Framework for Sustainable Management of Public Housing Estates in Nigeria, (September).
- PACFL. (2009). *President's Advisory Council on Financial Literacy Annual Report*. Washington, DC 20433. Retrieved from <https://www.scribd.com/document/135313221/Pacfl-Annual-Report-1-16-09>
- Pallant, J. (2011). *SPSS Survival Manual*. 4th edition: *A step by step guide to data analysis using SPSS version 18*. Maidenhead, Berkshire: Open University Press.
- Pallant, J. (2013). *SPSS Survival Manual: A Step By Step Guide To Data Analysis Using SPSS (Version 21)*. Two Penn Plaza, New York: Licensing Agency Ltd.
- Parrotta, J. L., & Johnson, P. J. (1998). The Impact Of Financial Attitudes And Knowledge On Financial Management And Satisfaction Of Recently Married Individuals. *Financial Counseling and Planning*, 9(2), 59–75.
- Patton, M. (1990). *Qualitative Evaluation and Research Methods*. *Qualitative Evaluation and Research Methods*. <https://doi.org/10.1002/nur.4770140111>
- Paulhus, D. L. (1984). Personality processes and individual differences. *Two-Component Models of Socially Desirable Responding*. <https://doi.org/10.1037//0022-3514.46.3.598>
- Plagnol, A. C. (2011). Financial satisfaction over the life course: The influence of assets and liabilities. *Journal of Economic Psychology*, 32(1), 45–64. <https://doi.org/10.1016/j.joep.2010.10.006>
- Porter, N. M., & Garman, E. T. (1993). Testing a Conceptual Model of Financial Well-Being. *Financial Counseling and Planning*, 4(803), 135–164.

- Porter, N. M., Schuchardt, J., Stum, M., DeVaney, S., Bechman, J., Rowe, B., ... Granovsky, N. (2000). Financial Security in Later Life. *National Extension Money Management*. The Cooperative Extension System (CES).
- Power, M. L., & Hira, T. K. (2010). Insurance Company Employees' Financial Expertise and Practices: Implications on Benefit Participation and Satisfaction. *Risk Management and Insurance Review*, 13(1), 111–125.
- President's Advisory Council. (2010). *National Strategy for Financial Literacy 2010*.
- President's Advisory Council. (2015). *President's Advisory Council on Financial Capability for Young Americans*.
- Prochaska-cue, K. (1988). An Exploratory Study for a Model of Personal Financial Management Style, (9678), 111–134.
- Prochaska, J. O., & DiClemente, C. C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy: Theory, Research and Practice*, 19(3), 276–288. <https://doi.org/10.1037/h0088437>
- Prochaska, J. O., Diclemente, C. C., & Norcross, J. C. (1992). In Search of How People Change Applications to Addictive Behaviors. *American Psychologist*, 47(9 September), 1102–1114. <https://doi.org/doi:10.3109/10884609309149692>
- Prochaska, J. O., Velicer, W. F., Rossi, J. S., Goldstein, M. G., Marcus, B. H., Rakowski, W., Rossi, S. R. (1994). Stages of change and decisional balance for 12 problem behaviors. *Health Psychology*, 13(1), 39–46. <https://doi.org/10.1037//0278-6133.13.1.39>
- Prosper Canada. (2009). *Money Coaching Program Evaluation*. Retrieved from <http://prospercanada.org/getattachment/26095cda-1842-434d-9f19-70df4e821505/MPower-Money-Coaching-Program-Final-Report.aspx>
- Public Interest and Taylor Newberry Consulting. (2012). *The Development of an Evaluation Framework for the Financial Literacy Service Sector*.
- Putnam, R. D. (2001). Social Capital: Measurement and Consequences. *The Isuma Canadian Journal of Policy Research (ISUMA)*, 2(Spring), 41–51.
- Randall, D. M., & Gibson, a M. (1991). Ethical decision making in the medical profession: An application of the theory of planned behavior. *Journal of Business Ethics*, 10(2), 111–122.
- Reversals, P., Kind, D., Less, M. I., Author, P., Source, J. A. L., American, T., ... Tadesse, G. (2013). Social desirability bias: A neglected aspect of validity testing. *American Journal of Agricultural Economics*, 17(2), 79–103. [https://doi.org/10.1002/\(SICI\)1520-6793\(200002\)17](https://doi.org/10.1002/(SICI)1520-6793(200002)17)

- Ritchie, J., & Lewis, J. (2003). *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. (J. L. Jane Ritchie, Ed.) (1st Editio). Sage Publications, Incorporated.
- Robson, J. (2012). *The Case for Financial Literacy*. Assessing the Effects of Financial Literacy. Retrieved from <https://canlearnsociety.ca/wp-content/uploads/2013/01/The-Case-for-Financial-Literacy-EN.pdf>
- Sabri, M. F., & Falahati, L. (2013). Predictors of Financial Well-Being among Malaysian Employees: Examining the Mediate Effect of Financial Stress. *Journal of Emerging Economies and Business Research*, 1(3),1-16. Retrieved from <http://www.jeeir.com/index.php/jeeir/article/view/74>
- Sabri, M. F., & Juen, T. T. (2017). The Influence of Financial Literacy , Saving Behaviour , and Financial Management on Retirement Confidence among Women Working in the Malaysian Public Sector, *Asian Social Science* 10(14), 40–51. <https://doi.org/10.5539/ass.v10n14p40>
- Schuchardt, J., Hanna, S. D., Hira, T. K., Lyons, A. C., Palmer, L., & Xiao, J. J. (2009). Financial Literacy and Education Research Priorities. *Journal of Financial Counseling and Planning*, (October 2008), 84–95.
- SEDI. (2009). *Financial Literacy : Strategies To Meet The Needs of Low Income Albertans*. Retrieved from [http://www.sedi.org/DataRegV2-unified/sedi-Reports/Strategies to meet the needs of low income Albertans.pdf](http://www.sedi.org/DataRegV2-unified/sedi-Reports/Strategies%20to%20meet%20the%20needs%20of%20low%20income%20Albertans.pdf)
- Selvaraj, D. P. (2011). Malaysia's Soaring Bankruptcy Rate. Retrieved from <http://www.bfm.my/current-affairs-290911-paul-selvaraj.html>
- Shannon-Baker, P. (2016). Making Paradigms Meaningful in Mixed Methods Research. *Journal of Mixed Methods Research*, 10(4), 319–334. <https://doi.org/10.1177/1558689815575861>
- Sheppard, B. H., Hartwick, J., Warshaw, P. R., & Hartwick, J. O. N. (1988). The Theory of Reasoned Past Action : Meta-Analysis of with Modifications for Recommendations and. *Journal of Consumer Research*, 15(3), 325–343. <https://doi.org/10.1086/209170>
- Sherraden, M. (2008). Asset building: Integrating research, education and practice. *Advances in Social Work*. Retrieved from <http://journals.iupui.edu/index.php/advancesinsocialwork/article/viewArticle/103>
- Sherraden, M. S. (2010). Financial Capability: What is It, and How Can It Be Created? .. *Center for Social Development Working Papers*, (10).
- Sherraden, M. S., Huang, J., Frey, J. J., Birkenmaier, J., Callahan, C., Sherraden, M., & Clancy, M. (2015). *Financial Capability and Asset Building for All* (October No. 13). Retrieved from <http://aaswsw.org/wp-content/uploads/2015/10/Financial-Capability-and-Asset-Building-for-All.pdf>

- Sherraden, M. S., Johnson, L., Guo, B., & Elliott, W. (2011). Financial Capability in Children: Effects of Participation in a School-Based Financial Education and Savings Program. *Journal of Family and Economic Issues*, 32, 385–399. <https://doi.org/10.1007/s10834-010-9220-5>
- Shim, S., Barber, B. L., Card, N. A., Xiao, J. J., & Serido, J. (2010). Financial Socialization of First-year College Students: The Roles of Parents, Work, and Education. *Journal of Youth and Adolescence*, 39(12), 1457–1470. <https://doi.org/10.1007/s10964-009-9432-x>
- Shockey, S. S., & Seiling, S. B. (2004). Moving Into Action: Application of the Transtheoretical Model of Behavior Change to Financial Education. *Journal of Financial Counseling & Planning*, 15(1), 41–52.
- Shyue Chuan, C. (2015). *An analysis of bequest motives and distribution among older adults*. Universiti Tunku Abdul Rahman.
- Sibley, J. (2010). *Financial Capability, Financial Competence and Wellbeing in Rural Fijian Households*. UNDP Pacific Centre. Fiji: Retrieved from <http://www.nfitfiji.com/wp-content/uploads/UNDP-Financial-Capability-Financial-Competence-and-Wellbeing-in-Rural-Fijian-Households-Report.pdf>
- Simon, B. (2005). *Why Financial Capability Matters Synthesis Report on Canadians and Their Money. A National Symposium on Financial Capability*. Retrieved from [https://www.canada.ca/content/dam/canada/financial-consumer-agency/migration/eng/resources/researchsurveys/documents/sedi-fcac\\_fincapability-eng.pdf](https://www.canada.ca/content/dam/canada/financial-consumer-agency/migration/eng/resources/researchsurveys/documents/sedi-fcac_fincapability-eng.pdf)
- Sledge, J., Tescher, J., & Gordon, S. (2010a). *From Financial Education to Financial Capability: Opportunities for Innovation*. Center for Financial Services Innovation. Retrieved from [http://www.citigroup.com/citi/foundation/pdf/CFSI\\_FE\\_to\\_FC\\_White%20Paper\\_2010.pdf](http://www.citigroup.com/citi/foundation/pdf/CFSI_FE_to_FC_White%20Paper_2010.pdf)
- Stockburger, D. W. (1996). *Introductory statistics: Concepts, models and applications (revised)*. Southwest Missouri State University. Retrieved from <https://store.fmi.uni-sofia.bg/fmi/statist/education/IntroBook/sbk00.htm>
- Suhaimi. (2013). Financial Literacy in Malaysia: Issues and Status Update. *Bank Negara Malaysia*, (September).
- Sumarwan, U., & Hira, T. K. (1993). The effects of perceived locus of control and perceived income adequacy on satisfaction with financial status of rural households. *Journal of Family and Economic Issues*, 14(4), 343–364. <https://doi.org/10.1007/BF01013984>
- Suter, W. N. (2006). *Introduction to Educational Research: A Critical Thinking Approach*. London: United Kingdom: Sage Publications, Incorporated.
- Taft, M. K., Hosein, Z. Z., & Mehrizi, S. M. T. (2013). The Relation between Financial Literacy, Financial Wellbeing and Financial Concerns. *International Journal of*

- Business and Management*, 8(11), 63–75. <https://doi.org/10.5539/ijbm.v8n11p63>
- Tashakkori, A., & Teddlie, C. (2003). *Handbook of Mixed Methods in Social & Behavioral Research*. Thousand Oaks: Sage.
- Task Force on Financial Literacy. (2010). *Canadians and their money - Building a brighter financial future*. Canada: Department of Finance Canada
- Taylor-powell, E., Henert, E., & Street, N. L. (2008). Developing a logic model : Teaching and training guide, (February).
- Taylor-Powell, E., Jones, L., & Henert, E. (2003). Enhancing Program Performance with Logic Models. University of Wisconsin-Extension. Retrieved from [https://fyi.uwex.edu/program development/files/2016/03/ lmcourseall.pdf](https://fyi.uwex.edu/program%20development/files/2016/03/lmcourseall.pdf)
- Taylor, M. (2011). *The long term impacts of financial capability: Evidence from the BHPS*. Retrieved from [https://mascdn.azureedge.net/cms/ long\\_term\\_impacts\\_fc\\_v5.pdf](https://mascdn.azureedge.net/cms/long_term_impacts_fc_v5.pdf)
- Taylor, M., Jenkins, S. P., & Sacker, A. (2011). Measuring Financial Capability and its Determinants Using Survey Data. *Social Indicators Research*, 102(2), 297–314. <https://doi.org/10.1007/s11205-010-9681-9>
- Taylor, S., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research*. <https://doi.org/10.1287/isre.6.2.144>
- Tenbroek, B. M., Lee, M. S. L., Edwards, C. F., Bunyan, R. J. T., & Uren, M. J. (1997). *Financial capability in low- and middle-income countries: Measurement And Evaluation* (Vol. 16).
- The Star Online. (2013, August 23). Only specialists will benefit. *The Star Online*. Retrieved from <http://www.thestar.com.my/opinion/letters/2013/08/23/only-specialists-will-benefit/>
- Theeboom, T., Beersma, B., & Annelies, E. M. va. V. (2014). Does coaching work? A meta-analysis on the effects of coaching on individual level outcomes in an organizational context. *The Journal of Positive Psychology*, 9(February 2015), 1–18. <https://doi.org/10.1080/17439760.2013.837499>
- Theodos, B., Simms, M., Treskon, M., Stacy, C., Brash, R., Emam, D., ... Collazos, J. (2015). *An Evaluation of the Impacts and Implementation Approaches of Financial Coaching Program*. Retrieved from <http://www.urban.org/sites/default/files/alfresco/publication-pdfs/2000448-An-Evaluation-of-the-Impacts-and-Implementation-Approaches-of-Financial-Coaching-Programs.pdf>
- Tillis, T. S. I., Stach, D. J., Cross-Poline, G. N., Annan, S. D., Astroth, D. B., & Wolfe, P. (2003). The transtheoretical model applied to an oral self-care behavioral



change: Development and testing of instruments for stages of change and decisional balance. *Journal of Dental Hygiene: JDH / American Dental Hygienists' Association*, 77(1), 16–25. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/12704966>

Titus, P. M., Fanslow, A. M., & Hira, T. K. (1989). Net worth and financial satisfaction as a function of household money managers' competencies. *Home Economics Research Journal*, 17, 309–317.

University of Wisconsin-Extension. (2003). *Welcome to Enhancing Program Performance with Logic Models*.

Vallerand, R. J., G.Pelletier, L., Blais, M. R., Briere, N. M., Senecal, C., & Evelyne F Vallieres. (1992). The academic motivation scale: A measure of intrinsic, extrinsic, and a motivation in education. *Educational and Psychological Measurement*, 52, 1003–1017.

Vitt, L. a., Kent, J., Lyter, D. M., Siegenthaler, J. K., & Ward, J. (2000). Personal Finance and the Rush To Competence: Financial Literacy Education in the U.S. *Personal Finance*, 1–234. [https://doi.org/Fannie Mae Foundation](https://doi.org/Fannie%20Mae%20Foundation): Washington DC

Welman, C., Kruger, S. J., & Kruger, F. (2001). *Research Methodology for Business and Administrative Sciences* (2nd Editio). Cape Town: Oxford University Press.

Williams, J., Clemens, S., Oleinikova, K., & Tarvin, K. (2003). *The Skills for Life survey A national needs and impact survey of literacy, numeracy and ICT skills. DfES Publication*. 2-16 Colegate, Norwich NR31BQ. [https://doi.org/ISBN 1 84478 129 1](https://doi.org/ISBN%201844781291)

Willis, L. E. (2008). Against financial-literacy education. Scholarship at Penn Law. Paper 208.

Willis, L. E. (2009). Evidence and Ideology in Assessing the Effectiveness of Financial Literacy Education. *San Diego Law Review*, 415–458.

Woodyard, A., & Robb, C. (2012). Financial Knowledge and the Gender Gap. *Journal of Financial Therapy*, 3(1), 0–16. [https://doi.org/ 10.4148/ jft.v3i1. 1453](https://doi.org/10.4148/jft.v3i1.1453)

Worthen, B. R., Sanders, J. R., & Fitzpatrick, J. L. (1999). Program Evaluation: Alternative Approaches and Practical Guidelines. *American Journal of Evaluation*. Longman Publishers,. [https://doi.org/ISSN: 1098-2140](https://doi.org/ISSN:1098-2140)

www.payscale.com. (2016). Salary Data & Career Research Center (South Africa), 46–47. Retrieved from [http://www.payscale.com/research/ ZA/ Country=South\\_Africa/Salary](http://www.payscale.com/research/ZA/Country=South_Africa/Salary)

Xiao, J. J. (2008). *Handbook of Consumer Finance Research*. new York: Springer New York. <https://doi.org/10.1007/978-3-319-28887-1>

- Xiao, J. J., Chen, C., & Chen, F. (2013). Consumer Financial Capability and Financial Satisfaction. *Social Indicators Research*, 113(Sept, No.3), 1–18. <https://doi.org/10.1007/s11205-013-0414-8>
- Xiao, J. J., Newman, B. M., Prochaska, J. M., Leon, B., Bassett, R. L., & Johnson, J. L. (2004). Applying the Transtheoretical Model of Change to Consumer Debt Behavior. *Change*, 15, 89–100.
- Xiao, J. J., Prawitz, A. D., Prochaska, J. M., O'Neill, B., Kim, J. H., & Garman, E. T. (2008). Strategies for Motivating Employees To Develop Positive Financial Behaviors : An Application of the Transtheoretical Model of Behavior Change. *Special Publication of the Personal Finance Employee Education Foundation*, (2007), 1–8.
- Xiao, J. J., Tang, C., & Shim, S. (2009). Acting for Happiness: Financial Behavior and Life Satisfaction of College Students. *Social Indicators Research*, 92(1), 53–68. <https://doi.org/10.1007/s11205-008-9288-6>
- Yoong, J., Mihaly, K., Bauhoff, S., Rabinovich, L., & Hung, A. (2013). A toolkit for the evaluation of financial capability programs in low- and middle-income countries. *The World Bank*. Retrieved from <https://openknowledge.worldbank.com/handle/10986/16294>
- Youn, A. (2012). Seriously? Doctors say they're underpaid. *CNN Chart*, 1–4. Retrieved from <http://thechart.blogs.cnn.com/2012/05/01/seriously-doctors-say-theyre-underpaid/>
- Zakaria, N. F. (2013). Review of Financial Capability Studies. *International Journal of Humanities and Social Science*, 3(9 May), 197–203.
- Zimmerman, G. L., Olsen, C. G., & Bosworth, M. F. (2000). A “stages of change” approach to helping patients change behavior. *Am Fam Physician*, 61(5), 1409–1416.