UNIVERSITI PUTRA MALAYSIA

DEVELOPMENT OF ANXIETY AND DEPRESSION INVENTORY FOR SECONDRY SCHOOL STUDENTS IN IRAN

MAHNAZ FALLAHI KHESHT MASJEDI

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DEVELOPMENT OF ANXIETY AND DEPRESSION INVENTORY FOR SECONDRY SCHOOL STUDENTS IN IRAN

By

MAHNAZ FALLAHI KHESHT MASJEDI

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

October 2012

DEDICATION

To my dear late mother,

my father,

My beloved brother and my sisters

and

Professor, Dr Mohmad Jafar Modabernia

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirements for the degree of Doctor of Philosophy

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MAHNAZ FALLAHI KHESHT MASJEDI

October 2012

Chairman : Zoharah Binti Omar, PhD

Faculty : Educational Studies

The purpose of the study was: (1) To determine the validity of A&D Inventory to measure anxiety and depression in secondary schools; (2) To determine the reliability of A&D Inventory in measuring anxiety and depression in secondary schools. The participants constituted of 579 students from the secondary school, whom were selected from teenagers who live in north of Iran in 2011-2012. Item pool generation was guided by the operational definition of the construct measured by the two theories: First, the Tripartite Model, and the second theory is the cognitive content specificity.

The instrument has been devised and validated through a scientific method to ensure its reliability and validity. The results provide evidence that the developed instrument achieved sound psychometric properties. The overall reliability value of Cranach's

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Alpha was .87. Also by Using EFA, the Anxiety & Depression inventory (A&D inventory) construct produced two significant factors. The hypothesized two-factor model identified via EFA in the Study consisted of 32 items, with 16 items belonging to anxiety and 16 items to depression.

The CFA results showed that the goodness-of-fit indices for the revised model were as follows: χ^2 =2111.222, DF=403, CMIN/DF= 3.785, GFI=.920, CFI=.937, NFI=.912, TLI=.908 and RMSEA =.047; each of the indices was the threshold values.

To assess the convergent, construct reliability (CR), average variance extracted (AVE) method and discriminant validity were obtained. The construct reliability of all latent variables in this study was 0.95 in anxiety and 0.97 in depression. The average variance extracted values of latent variables in this table were between 0.78 in anxiety and 0.81 in depression and the last, AVE was greater than the squared correlation that demonstrated satisfactory discriminant validity.

Evidence for the convergent validity of the A&D Inventory demonstrated through its significant high correlation between anxiety items of A&D Inventory with BAI items were.80 and high correlation depression items of the A&D Inventory with BDI (.89).

Divergent validity of the A&D Inventory was demonstrated through its significant low correlation anxiety items of the A&D Inventory with BDI (.45) and low correlation depression items of the A&D Inventory with the BAI (.41).

The overall test-retest reliability value of Cranach's Alpha was .90.

The A&D Inventory is simple, brief, and easy to administer. Indeed, the entire 32-item A&D Inventory takes no longer to complete than other symptom measures. Overall,

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therefore, the A&D Inventory can provide differentiated symptoms between anxiety and depression in a very quick and efficient manner for Iranian secondary schools.

The measurement invariance of the Model across samples was done to test the factorial validity of the instrument. There is no significant difference between male and female in this study. The results of this study suggest that the items do not measure differences between male and female respondents. Overall, therefore, the A&D Inventory can provide differentiated symptom assessment in a very quick and efficient manner for Iranian secondary schools.

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

PEMBANGUNAN INVENTORI KEBIMBANGAN DAN INVENTORI KEMURUNGAN UNTUK PELAJAR SEKOLAH MENENGAH DI IRAN

Oleh

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Tujuan kajian ini adalan untuk: (1) menentukan kesahihan daftar barangan A&D bagi mengukur tahap kebimbangan dan kemurungan di kalangan remaja; (2) menentukan kebolehpercayaan daftar barangan A&D bagi mengukur tahap kebimbangan dan kemurungan di peringkat sekolah menengah. Subjek bagi kajian ini adalah seramai 579 pelajar dari sekolah menengah dan mereka dipilih dari kalangan remaja yang tinggal di utara Iran pada tahun 2011-2012. *Item pool generation* telah dijadikan panduan berdasarkan definasi operasi yang diukur menggunakan dua teori berkaitan: Model Tripartite dan teori kandungan ketepatan kognitif.

Alatan yang digunakan untuk kajian ini telah dicipta dan disahkan melalui kaedah saintifik untuk memastikan kesahihan dan keboleh- percayaannya. Hasilnya, alat yang dicipta telah mencapai ciri-ciri psikometrik yang sesuai. Nilai keseluruhan tahap keboleh

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percayaan Alpha Cranach mencatatkan .87. Malahan, dengan menggunakan EFA, daftar barangan Kebimbangan dan Kemurungan (A&D inventory) menghasilkan dua faktor yang signifikan. Hipotesis dua-faktor model yang dikenal pasti melalui EFA mempunyai 32 item, dengan 16 item mewakili kebimbangan dan 16 item lagi mewakili kemurungan.

Keputusan CFA menunjukkan bahawa indeks kebaikan-patut bagi model yang telah dikaji semula adalah seperti berikut: χ^2 =2111.222, DF=403, CMIN/DF= 3.785, GFI=.920, CFI=.937, NFI=.912, TLI=.908 and RMSEA =.047; di mana setiap satu indeks adalah ambang nilaian.

Bagi menguji pertembungan pembentukan keboleh percayaan (CR), kaedah cabutan purata berlawanan (AVE) dan kesahihan pembezalayan telah diperolehi. Pembentukan keboleh percayaan (CR) bagi semua pemboleh ubah tersembunyi dalam kajian ini adalah 0.95 bagi kebimbangan dan 0.97 bagi kemurungan. Nilai AVE bagi pemboleh ubah tersembunyi di dalam jadual ini adalah di antara 0.78 bagi kebimbangan dan 0.81 bagi kemurungan. Pada dasarnya, AVE sepatutnya lebih besar nilainya berbanding dengan korelasi kuasa dua bagi menunjukkan kesahihan pembezalayan yang memuaskan. Nilai AVE adalah 0.5 lebih besar berbanding dengan 0.5 penentuan pertembungan yang mencukupi.

Bukti bagi kesahihan pertembungan untuk daftar barangan A & D telah ditunjukkan melalui hubung kait yang tinggi antara perkara kebimbangan daripada daftar barangan A & D dengan perkara BAI adalah sebanyak 0.80 dan hubung kait yang tinggi juga bagi perkara kemurungan daripada daftar barangan A & D BDI sebanyak (.89).

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Selain daripada itu, bukti bagi kesahihan pembezalayan daripada daftar barangan A & D telah ditunjukkan melalui hubung kaitnya yang rendah terhadap perkara kebimbangan daripada daftar barangan A & D dengan catatan BDI (.45) dan hubung kait yang sedikit terhadap perkara kemurungan daripada daftar barangan A & D BAI dengan catatan hanya (41).

Ujian dan ujian semula keboleh percayaan yang telah digunakan dalam selang masa 2 minggu melaporkan bahawa r =.703 bagi kebimbangan, r=.841 bagi kemurungan dan r=.725 bagi keseluruhan perkara. Secara amnya, keputusan yang diperolehi telah mempamerkan tahap keboleh percayaan yang sederhana.

Daftar barangan A & D adalah suatu alat yang mudah, ringkas dan senang untuk diuruskan. Malah, kesemua 32 perkara daftar barangan A & D mengambil masa yang singkat untuk digunakan berbanding alat-alat pengukur yang lain. Secara keseluruhannya, daftar barangan A & D boleh memberi perbezaan gejala antara kebimbangan dan kemurungan dalam suatu cara yang cekap dan pantas bagi remaja di Iran.

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I certify that a Thesis Examination Committee has met on 30/10/2012 to conduct the final examination of Mahnaz Fallahi Khesht Masjedi on her thesis entitled " **Development of anxiety inventory and depression inventory for secondary school students in Iran**" 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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DECLARATION

I declare that the thesis is my original work except for quotations and citations, which have been duly acknowledged. I also declare that it has not been previously and is not concurrently submitted for any other degree at Universiti Malaysia Putra or at any other institutions.

_____

MAHNAZ FALLAHI KHESHT MASJEDI

Date: 30 October 2012

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TABLE OF CONTENTS

		Page
DEDICATION		i
ABSTRACT		ii
ABSTRAK		v
ACKNOWLEDGEMENT		viii
APPROVAL		x
DECLARATION		xii
TABLE OF CONTENT		xiii
LIST OF TABALES		xvi
LIST OF FIGURES		xix
LIST OF ABBREVATIONS		xx
CHAPTER		
1	**INTRODUCTION**	
1.0	Introduction	1
1.1	Background of study	1
1.2	Problem Statement	4
1.3	Research objective	10
1.4	Research question	11
1.5	Significance of study	12
1.6	Limitation of study	14
1.7	Definition of terms	15
1.7.1	Validation	16
1.7.2	Anxiety	16
1.7.3	Depression	17
1.7.4	Negative affect	17
1.7.5	Positive affect	17
1.7.6	Physiological hyper arousals	18
1.7.7	Secondary school	18
1.8	Summary	18
2	**REVIEW OF LITERATURE**	
2.0	Introduction	19
2.1	Concept of emotional disorder	20
2.2	Concepts of anxiety and depression	22
2.2.1	Anxiety	22
2.2.2	Depression	28
2.3	Prevalence of anxiety and depression	34
2.3.1	Prevalence of anxiety and depression in the world	35
2.3.2	Prevalence of anxiety and depression in the Iran	38
2.4	Theories related to Anxiety and Depression in this study	44
2.4.1	Theories related to Anxiety	46
2.4.2	Theories related to Depression	47

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2.4.3 Theories related to anxiety and depression 49
2.5 Similarity and difference between anxiety and depression 61
2.5.1 Distinguishing between depression and anxiety 63
2.5.2 Conclusion from relations between depression and anxiety 65
2.6 Theories related to instrument development 65
2.7 Measurement of anxiety and depression 69
2.7.1 Classical test theory (CTT) 70
2.7.2 The standards for test construction and evaluations 73
2.8 Research framework 93
2.9 The process of development instrument 99
2.9.1 Step 1: Construct Definition and Content Domain 99
2.9.2 Step 2: Generating and Judging Measurement Items 100
2.9.3 Step 3: Designing and Conducting Studies to Develop and Refine the Scale 101
2.9.4 Step 4: Finalizing the Scale 102
2.10 Cross- cultural adaptation 105
2.11 Norm 108
2.12 Brief assessment of anxiety and depression 109
2.12.1 Brief assessment of anxiety 110
2.12.2 Brief assessment of depression 116
2.13 Summary 123

3 METHODOLOGY

3.0 Introduction 124
3.1 Research design 124
3.2 Research procedure 125
3.3 Location of study 127
3.4 Population and sample size 127
3.4.1 Sample size 128
3.4.2 Sampling 133
3.5 Instruments 135
3.5.1 Beck Anxiety Inventory (BAI) 135
3.5.2 Beck Depression Inventory (BAI 136
3.6 Data collection procedures in pilot and main study 136
3.7 Process for instrument development and validation 138
3.7.1 Phase1.item generation 138
3.7.2 Phase2. Item analysis for pilot study 145
3.7.3 Phase3.Cross-validity 148
3.8 Summary 153

4 RESULT AND INTERPRATION

4.0 Introduction 154
4.1 Phase I: Item generation 154
4.2 Phase II: Item analysis 154
4.2.1 Description of the demographic characteristics of the Respondent (pilot study) 155
4.2.2 Item Analysis and the Development of the A&D Inventory in pilot study 156
4.2.3 Internal consistency reliability (cronbach's alpha) 161

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4.2.4 Criterion – related validity in pilot study 165
4.3 Phase III:Cross- validation 166
4.3.1 Description of the demographic characteristics of the respondent (Main study) 166
4.3.2 Confirmatory Factor Analysis (CFA) 168
4.3.3 Stage 1: Assessing Congeneric Model Validity for "anxiety" of A&D Inventory 170
4.3.4 Stage 2: Assessing Congeneric Model Validity for "depression" of A&D Inventory 177
4.3.5 Stage 3: Assessing Congeneric Model Validity for overall A&D Inventory 187
4.3.6 Stage 4: Assessing Measurement Model Validity for anxiety of A&D Inventory with the Beck Anxiety Inventory (BAI) and depression of A&D Inventory with the Beck depression Inventory (BDI) 191
4.3.7 Stage 5: Assessing Invariance of the CFA Measurement Model 194
4.3.8 Stage 6: Study Validation and Test-Retest 197
4.4 Summary 201

5 DISCUSSION OF FINDINGS
5.0 Introduction 202
5.1 Overview of the study 202
5.2 Section I: To determine the validity of A&D Inventory to measure anxiety and depression 206
5.2.1 CFA in Pilot study 206
5.2.2 EFA in Main study 207
5.2.3 Convergent and discriminant validity 209
5.2.4 Measurement Invariance 210
5.3 Section Π: To determine the reliability of A&D Inventory to measure anxiety and depression 210
5.3.1 Internal consistency 210
5.3.2 Test-retest reliability 211
5.4 General Discussion, Basic Properties of the A&D Inventory 212
5.5 Review of Individual items 212
5.5.1 Anxiety 213
5.5.2 Depression 215
5.5.3 Utility of the A&D Inventory 221
5.5.4 Further Validation of the A&D Inventory 221
5.6 Section III 222
5.6.1 Limitation of the Study 222
5.6.2 Implications 222
5.6.3 Recommendations for Future Research 224
5.7 Summary 225

BIBLOGRAPHY
APPENDICES
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