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**IMPACT OF LONELINESS AND LOCUS OF CONTROL ON
DEPRESSION AMONG THE ELDERLY IN PUNJAB, PAKISTAN:
THE MODERATING ROLE OF RELIGIOSITY**



**DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
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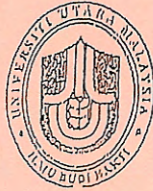
**IMPACT OF LONELINESS AND LOCUS OF CONTROL ON
DEPRESSION AMONG THE ELDERLY IN PUNJAB, PAKISTAN:
THE MODERATING ROLE OF RELIGIOSITY**

By

FATIMA KHURRAM BUKHARI



**Thesis Submitted to
Awang Had Salleh Graduate School of Arts and Sciences
Universiti Utara Malaysia
in Fulfilment of the Requirement for the Degree of Doctor of Philosophy**



Awang Had Salleh
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of Arts And Sciences

Universiti Utara Malaysia

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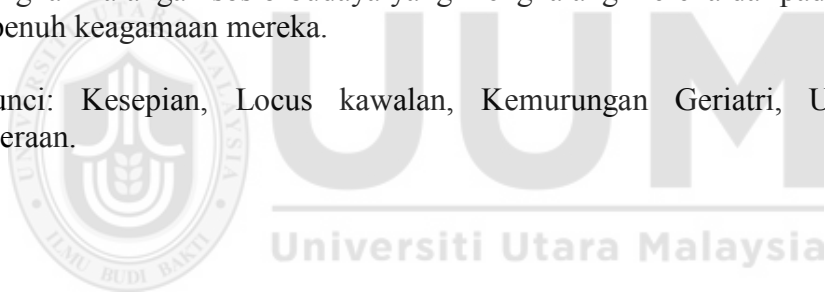


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Abstrak

Kemurungan adalah isu psikiatri yang terkenal di kalangan orang tua di Pakistan. Dalam hal ini, kesunyian seolah-olah menjadi sumber kritikal untuk mewujudkan kemurungan pada orang tua Punjab, Pakistan. Walau bagaimanapun, disebabkan banyak faktor demografi yang menghadkan lokus kawalan mereka dan masalah kesepian, keberkesanan keagamaan mempunyai alat untuk mengatasi kemurungan. Oleh itu, kajian ini bertujuan untuk menganggarkan kesan kesepian dan locus kawalan terhadap kemurungan geriatrik; peranan moderat keagamaan orang tua Punjab, Pakistan. Ke arah ini, data primer telah dikumpulkan dari 384 responden yang dipilih melalui persampelan rawak berstrata. Soal soal selidik yang ditutup telah digunakan untuk pengumpulan data dan data dianalisis menggunakan regresi hierarki, ujian T dan Analisis varians. Penemuan kajian menunjukkan bahawa kesunyian didapati signifikan dalam menjelaskan kemurungan geriatrik. Menariknya, locus kawalan yang diukur oleh locus kawalan keseluruhan, locus kawalan dalaman, locus kawalan luar dan locus kawalan lain yang berkuasa juga didapati mempunyai hubungan yang signifikan dengan kemurungan geriatrik. Tambahan pula, keagamaan sebagai moderator juga didapati penting dalam menjelaskan kemurungan geriatrik. Kajian itu menyimpulkan bahawa usaha untuk mengatasi kemurungan geriatrik di Punjab Pakistan tidak seharusnya terfokus hanya pada kesepian dan locus kawalan kepada mereka. Ia mesti datang serentak dengan kesan kesederhanaan yang sederhana. Ini boleh dilakukan melalui keagamaan seperti penyertaan dalam perhimpunan agama dan mengurangkan halangan sosio-budaya yang menghalang mereka daripada merealisasikan potensi penuh keagamaan mereka.

Kata kunci: Kesepian, Locus kawalan, Kemurungan Geriatri, Usia Lama dan Kesejahteraan.



Abstract

Depression is a well-known psychiatric issue among the elderly in Pakistan. In this regard, the loneliness seems a critical source to create depression on the older people of Punjab, Pakistan. Nevertheless, owing to many demographic factors that limit their locus of control and troublesomeness of loneliness, the effectiveness of religiosity has the tool to overcome depression. The study therefore, aims to estimate the impact of loneliness and locus of control on geriatric depression; the moderating role of religiosity of elderly people of Punjab, Pakistan. Towards this end, primary data has been gathered from 384 respondents that were selected through a stratified random sampling. Close ended questionnaires were employed for data collection and data were analyzed using hierarchal regression, T-test and Analysis of variance. The findings of the study show that loneliness is found to be significant in explaining geriatric depression. Interestingly, locus of control which is measured by locus of control total, internal locus of control, external locus of control and powerful others locus of control is also found to have a significant relationship with geriatric depression. Furthermore, the religiosity as a moderator is also found to be significant in explaining geriatric depression. The study concludes that the effort to overcome geriatric depression in Punjab Pakistan should not be focused just on loneliness and locus of control to them. It must come simultaneously with significant moderating impact of religiosity. This can be done through religiosity such as more participation in religious gatherings and reducing the socio-cultural barriers that hinder them from realizing their full potential of religiosity.

Keywords: Loneliness, Locus of Control, Geriatric Depression, Old Age and Well-Being.



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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The issue of depression is currently being studied in societies, especially among older people. The necessity of maintaining health among older people is imperative to guarantee performance and good quality of life that entails long term benefits to them as well as for the society. People encounter many mental health problems in their earlier or later life and depression is one of them. According to many previous researches geriatric depression is one of the major factors that might be fatal for older people in their later life (Stek, Vinkers, Gussekloo, Beekman, Mast, & Westendorp, 2005; Zhang & Liu, 2007). Therefore, researchers emphasize that geriatric depression in old age is very common but this is not the case with every individual.

In the existing age, the people are more conscious of the factors that could influence depression in old age Baskin, Wampold, Quintana, and Enright (2010) stressed on the fact that prolonged loneliness could lead to depression in old age (Prinstien & La Greca, 2002). Longitudinal study on depression found that childhood depression could prompt depression in the later ages. There is an association among loneliness and depression from early childhood to late immaturity, which further stays tenacious in later life (Qualter, Brown, Munn, & Rotenberg, 2010).

1.1.1 Psychological Disorders in Pakistan

There is a lot of suffering in the world today that no one has the time to take care of themselves and even their elders. All is why their elders are suffering from varying type of mental health problems. One of the common problems experienced by the elders is

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APPENDICES

APPENDIX A

Questionnaire

Respondent. No: -----

A. Demographic Variables

1	Gender	Male	Female					
2	Age	50- 55 1	56- 60 2	61- 65 3	66-70 4			
3	Education	Primary 1	Middle 2	Matric 3	F.A/FSc 4	B. A/B.SC 5	M.A./M. Sc 6	M.phil/P.hd. 7
4	Socio Economic Status	Lower 1	Middle 2	Upper 3				
5	Family Size	1-2 members	3-4 members	5-6 members	7-8 members	9 & above		
6	Marital Status	Married 1	Unmarried 2	Divorced	Widow			
7	Children	No children 1	Son 2	Daughter 3	Both 4			
8	Income	Below 14,000 1	15,000-30,000 2	Above 30,000 3				

B. Mini-Mental State Examination(MMSE)

No	Questions	Score
1	“What is the year? Season? Date? Day? Month?”	
2	“Where are we now? State? County? Town/city? Hospital? Floor?”	
3	The examiner names three unrelated objects clearly and slowly, then the instructor asks the patient to name all three of them. The patient’s response is used for scoring. The examiner repeats them until patient learns all of them, if possible.	
4	“I would like you to count backward from 100 by sevens.” (93, 86, 79, 72, 65, ...) Alternative: “Spell WORLD backwards.” (D-L-R-O-W)	
5	“Earlier I told you the names of three things. Can you tell me what those were?”	
6	Show the patient two simple objects, such as a wristwatch and a pencil, and ask the patient to name them.	
7	Repeat the phrase: ‘No ifs, ands, or buts.’”	
8	Take the paper in your right hand, fold it in half, and put it on the floor	
9	“Please read this and do what it says	
10	Make up and write a sentence about anything	
11	Please copy this picture.” (The examiner gives the patient a blank piece of paper and asks him/her to draw the symbol below. All 10 angles must be present and two must intersect.)	

C. Levenson Multidimensional Locus of Control

Definition of scale

1 Very strongly disagree

2 Strongly disagree

3 Disagree

4 Agree

5 Strongly agree

6 Very strongly agree

1. Internal Locus of Control

	Items Internal Locus of Control	Very strongly disagree 1	Strongly disagree 2	Disagree 3	Agree 4	Strongly agree 5	Very strongly agree 6
1	Whether or not I get to be a leader depends mostly on my ability.						
2	To a great extent my life is controlled by accidental happenings.						
3	I feel like what happens in my life is mostly determined by powerful people.						
4	Whether or not I get into a car accident depends mostly on how good a driver I am.						
5	When I make plans, I am almost certain to make them work.						
10	I have often found that what is going to happen will happen.						
19	I am usually able to protect my personal interests.						
21	When I get what I want, it's usually because I worked hard for it.						

2. External(Chance) Locus of Control

	Items External(chance) Locus of Control	Very strongly disagree 1	Strongly disagree 2	Disagree 3	Agree 4	Strongly agree 5	Very strongly agree 6
6	Often there is no chance of protecting my personal interests from bad luck.						
7	When I get what I want, it's usually because I'm lucky.						
8	Although I might have good ability, I will not be given						

	leadership responsibility without appealing to those in positions of power.						
9	How many friends I have depends on how nice a person I am.						
13	People like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups.						
22	In order to have my plans work, I make sure that they fit in with the desires of people who have power over me						
23	My life is determined by my own actions.						
24	It's chiefly a matter of fate whether or not I have a few friends or many friends.						

3. Powerful others Locus of Control

	Items Powerful others Locus of Control	Very strongly disagree 1	Strongly disagree 2	Disagree 3	Agree 4	Strongly agree 5	Very strongly agree 6
11	My life is chiefly controlled by powerful others.						
12	Whether or not I get into a car accident is mostly a matter of luck.						
14	It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune						
15	Getting what I want requires pleasing those people above me.						
16	Whether or not I get to be a leader depends on whether I'm lucky enough to be in the right place at the right time						
17	If important people were to decide they didn't like me, I probably wouldn't make many friends.						
18	I can pretty much determine what will happen in my life.						
20	Whether or not I get into a car accident depends mostly on the other driver.						

APPENDIX D

D. The Revised UCLA Loneliness Scale

No	Items	Never 1	Often 2	Sometimes 3	Always 4
1	I feel in tune with the people around me				
2	I lack companionship				
3	There is no one I can turn to				
4	I do not feel alone				
5	I feel part of a group of friends				
6	I have a lot in common with the people around me				
7	I am no longer close to anyone				
8	My interests and ideas are not shared by those around me				
9	I am an outgoing person				
10	There are people I feel close to				
11	I feel left out				
12	My social relationships are superficial				
13	No one really knows me well				
14	I feel isolated from others				
15	I can find companionship when I want it				
16	There are people who really understand me				
17	I am unhappy being so withdrawn				
18	People are around me, but not with me				
19	There are people I can talk to				
20	There are people I can turn to				
21	There are people I can contact to				

APPENDIX E

E. Bukhari Saad Religiosity Scale

No	Items	Very strongly disagree 1	Strongly disagree 2	Disagree 3	Agree 4	Strongly agree 5	Very strongly agree 6
1	Islam is a way of life.						
2	I feel calm when listening and reciting to the verses from the Holy Quran.						
3	I tried to understand the meaning of the verses of the Holy Quran.						
4	I go to masjid because it helps me to make friends and talk with religious scholars.						
5	It is important to me to spend time in muhasabah and solah						
6	Islam offers me comfort when afflicted with calamity/ misfortune.						
7	In addition to religious duty Solah can also leads to peace and happiness						
8	In addition to offer five times farz solah I try to increase the practice of the teaching of Sunnah						
9	I ensure that all of my family members to practice the Sunnah of Prophet (S.A.W.)						
10	I always say Salam to my all Muslim fellows as I meet them.						
11	I have good relations with neighbors						
12	I always tried to do my job as well as possible						
13	I immediately apologize if I am wrong						
14	I like to help anyone who needed						
15	I treat the guests well						
16	I accept the fact that I am not perfect						
17	Although Duniya is important, but akhirah is more important than anything else in my life.						

APPENDIX F

F. Geriatric Depression Scale

No	Items	Yes	No
1	Are you basically satisfied with your life?		
2	Have you dropped many of your activities and interests?		
3	Do you feel that your life is empty?		
4	Do you often get bored?		
5	Are you in good spirits most of the time?		
6	Are you afraid that something bad is going to happen to you?		
7	Do you feel happy most of the time?		
8	Do you often feel helpless?		
9	Do you prefer to stay at home rather than going out and doing new things?		
10	Do you feel you have more problems with memory than most?		
11	Do you think it is wonderful to be alive now?		
12	Do you feel pretty worthless the way you are now?		
13	Do you feel full of energy?		
14	Do you feel that your situation is hopeless?		
15	Do you think that most people are better off than you are?		

Correlation Matrix

		Correlations						
		GDSC2	lsa	lcsa2	lcsea	lcsia	lcspa	rsta
GDSC2	Pearson Correlation	1	.259**	.119*	.290**	-.067	.050	-.109*
	Sig. (2-tailed)		.000	.020	.000	.189	.328	.033
	N	384	384	384	384	384	384	384
Lsa	Pearson Correlation	.259**	1	.021	.111*	-.038	-.039	.056
	Sig. (2-tailed)	.000		.688	.029	.455	.443	.277
	N	384	384	384	384	384	384	384
lcsa2	Pearson Correlation	.119*	.021	1	.894**	.925**	.667**	.006
	Sig. (2-tailed)	.020	.688		.000	.000	.000	.913
	N	384	384	384	384	384	384	384
Lcsea	Pearson Correlation	.290**	.111*	.894**	1	.832**	.330**	-.004
	Sig. (2-tailed)	.000	.029	.000		.000	.000	.936
	N	384	384	384	384	384	384	384
Lcsia	Pearson Correlation	-.067	-.038	.925**	.832**	1	.440**	.028
	Sig. (2-tailed)	.189	.455	.000	.000		.000	.589
	N	384	384	384	384	384	384	384
Lcspa	Pearson Correlation	.050	-.039	.667**	.330**	.440**	1	-.011
	Sig. (2-tailed)	.328	.443	.000	.000	.000		.831
	N	384	384	384	384	384	384	384
Rsta	Pearson Correlation	-.109*	.056	.006	-.004	.028	-.011	1
	Sig. (2-tailed)	.033	.277	.913	.936	.589	.831	
	N	384	384	384	384	384	384	384

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Descriptive statistics of Demographical Variables

[DataSet1] E:\bootstttrapping folder\data for resampling.sav

Statistics

		age	gender	education	familysize	marital	children	socioeconomic
N	Valid	384	384	384	384	384	384	384
	Missing	0	0	0	0	0	0	0
	Minimum	3	1	1	1	1	1	1
	Maximum	5	2	7	5	4	4	3

Frequency Table

age

		Frequency	Percent	Valid Percent
Valid	60-64	144	37.5	37.5
	65-69	224	58.3	58.3
	70-74	16	4.2	4.2
	Total	384	100.0	100.0

gender

		Frequency	Percent	Valid Percent
Valid	male	192	50.0	50.0
	female	192	50.0	50.0
	Total	384	100.0	100.0

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	PRIMARY	96	25.0	25.0	25.0
	MIDDLE	16	4.2	4.2	29.2
	MATRIC	16	4.2	4.2	33.3
	FA/FSc	64	16.7	16.7	50.0
	BA/BSc	112	29.2	29.2	79.2
	MA/MSc	48	12.5	12.5	91.7
	MPhil/PhD	32	8.3	8.3	100.0
	Total	384	100.0	100.0	

Family size

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	16	4.2	4.2	4.2
	2	128	33.3	33.3	37.5
	3	160	41.7	41.7	79.2
	4	48	12.5	12.5	91.7
	5	32	8.3	8.3	100.0
	Total	384	100.0	100.0	

marital

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	married	168	43.8	43.8	43.8
	unmarried	168	43.8	43.8	87.6
	divorced	24	6.2	6.2	93.8
	widow	24	6.2	6.2	100.0
	Total	384	100.0	100.0	

Children

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	86	45.4	45.4	45.4
	2	53	27.3	27.3	72.7
	3	53	27.3	27.3	100.0
	Total	192	100.0	100.0	

socioeconomic

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	112	29.2	29.2	29.2
	2	160	41.7	41.7	70.8
	3	112	29.2	29.2	100.0
	Total	384	100.0	100.0	

Profile of the Variables

Statistics

		lsa	lcsa2	rsta	GDSC2
N	Valid	384	384	384	384
	Missing	0	0	0	0

Frequency Table

lsa

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	low	26	6.8	6.8	6.8
	mild	189	49.2	49.2	56.0
	severe	169	44.0	44.0	100.0
	Total	384	100.0	100.0	

lcsa2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extrenal	165	42.5	42.5	42.5
	Internal	104	27.5	27.5	70.0
	Powerful others	115	30.0	30.0	100.0
	Total	384	100.0	100.0	

Rsta

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	intrinsic religiosity	367	95.6	95.6	95.6
	extrinsic relirioisty	17	4.4	4.4	100.0
	Total	384	100.0	100.0	

GDSC2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No depression	44	11.5	11.5	11.5
	mild depression	150	39.1	39.1	50.5
	Moderate depression	156	40.6	40.6	91.1
	Severe depression	34	8.9	8.9	100.0
	Total	384	100.0	100.0	

Impact of loneliness on geriatric depression with and without religiosity as a Moderator (Hypothesis 1 & 3)

Bootstrap Specifications

Sampling Method	Simple
Number of Samples	5000
Confidence Interval Level	95.0%
Confidence Interval Type	Percentile

Bootstrap

Regression

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	lsa ^b	.	Enter
2	rsta, Isarsta ^b	.	Enter

a. Dependent Variable: GDSC2

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.259 ^a	.067	.065	.784
2	.313 ^b	.098	.091	.773

a. Predictors: (Constant), lsa

b. Predictors: (Constant), lsa, rsta, Isarsta

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	16.917	1	16.917	27.533	.000 ^b
	Residual	234.708	382	.614		
	Total	251.625	383			
2	Regression	24.717	3	8.239	13.798	.000 ^c
	Residual	226.908	380	.597		
	Total	251.625	383			

a. Dependent Variable: GDSC2

b. Predictors: (Constant), lsa

c. Predictors: (Constant), lsa, rsta, Isarsta

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.649	.161		10.228	.000
	Lsa	.345	.066	.259	5.247	.000
2	(Constant)	-.411	1.020		-.402	.688
	Lsa	1.365	.398	1.025	3.430	.001
	Rsta	1.990	.981	.506	2.028	.043
	Isarsta	-.981	.381	-1.020	-2.574	.010

a. Dependent Variable: GDSC2

Bootstrap for Coefficients

Model	B	Bootstrap ^a					
		Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval		
					Lower	Upper	
1 (Constant)	1.649	.003	.155	.000	1.352	1.965	
Lsa	.345	-.001	.062	.000	.220	.465	
2 (Constant)	-.411	.015 ^b	1.067 ^b	.677 ^b	-2.529 ^b	1.638 ^b	
Lsa	1.365	-.006 ^b	.377 ^b	.001 ^b	.639 ^b	2.126 ^b	
Rsta	1.990	-.012 ^b	1.035 ^b	.039 ^b	-.011 ^b	4.043 ^b	
Isarsta	-.981	.004 ^b	.363 ^b	.005 ^b	-1.701 ^b	-.293 ^b	

a. Unless otherwise noted, bootstrap results are based on 5000 bootstrap samples

b. Based on 4998 samples



**Impact of locus of control total on geriatric depression with and without religiosity
as a Moderator (Hypothesis 2 & 4)**

Bootstrap

Bootstrap Specifications

Sampling Method	Simple
Number of Samples	5000
Confidence Interval Level	95.0%
Confidence Interval Type	Percentile

Regression

Variables Entered/ Removed^a

Model	Variables Entered	Variables Removed	Method
1	lcsa2 ^b	.	Enter
2	rsta, Lcsa2rsta ^b	.	Enter

a. Dependent Variable: GDSC2

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.016 ^a	.026	.021	.802
2	.163 ^b	.027	.019	.803

a. Predictors: (Constant), lcsa2

b. Predictors: (Constant), lcsa2, rsta, Lcsa2rsta

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.591	2	3.295	5.124	.000 ^b
	Residual	245.030	381	.644		
	Total	251.625	383			
2	Regression	6.719	3	2.240	3.475	.001 ^c
	Residual	244.906	380	.644		
	Total	251.625	383			

a. Dependent Variable: GDSC2

b. Predictors: (Constant), lcsa2

c. Predictors: (Constant), lcsa2, rsta, Lcsa2rsta

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.554	.263		9.762	.000
	lcsa2	.103	.044	.120	2.367	.001
2	(Constant)	2.034	1.194		1.703	.008
	lcsa2	.249	.330	.288	.755	.451
	rsta	.078	1.161	.020	.067	.947
	Lcsa2rsta	-.143	.321	-.214	-.445	.002

a. Dependent Variable: GDSC2

Bootstrap for Coefficients

Model	B	Bootstrap ^a					
		Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval		
					Lower	Upper	
1 (Constant)	2.558	.003	.153	.000	1.805	3.037	
lcsa2	.103	.000	.041	.012	.025	.184	
2 (Constant)	2.034	-.043	1.218	.026	-.550	4.176	
lcsa2	.249	.012	.309	.207	-.287	.888	
rsta	.078	.044	1.186	.916	-1.976	2.586	
Lcsa2rsta	-.143	-.012	.300	.417	-.766	.375	

a. Unless otherwise noted, bootstrap results are based on 5000 bootstrap samples



Impact of Internal locus of control on geriatric depression with and without religiosity as a Moderator (Hypothesis 2a & 4a)

Bootstrap

Bootstrap Specifications

Sampling Method	Simple	
Number of Samples		5000
Confidence Interval Level		95.0%
Confidence Interval Type	Percentile	

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	lcsia ^b		Enter
2	rsta, lcsiarsta ^b		Enter

a. Dependent Variable: GDSC2

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.067 ^a	.005	.002	.810
2	.151 ^b	.023	.015	.804

a. Predictors: (Constant), Lcsia

b. Predictors: (Constant), lcsia, rsta, lcsiarsta

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.138	1	1.138	1.735	.003 ^b
	Residual	250.487	382	.656		
	Total	251.625	383			
2	Regression	5.719	3	1.906	2.946	.033 ^c
	Residual	245.906	380	.647		
	Total	251.625	383			

a. Dependent Variable: GDSC2

b. Predictors: (Constant), Lcsia

c. Predictors: (Constant), lcsia, rsta, lcsiarsta

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.653	.146		18.158	.000
	lcsia	-.048	.036	-.067	-1.317	.003
2	(Constant)	1.531	.994		1.541	.004
	lcsia	.343	.243	.482	1.411	.048
	rsta	1.097	.960	.279	1.142	.004
	lcsiarsta	-.380	.235	-.683	-1.617	.003

a. Dependent Variable: GDSC2

Bootstrap for Coefficients

Model	B	Bootstrap ^a					
		Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval		
					Lower	Upper	
1 (Constant)	2.653	.001	.142	.000	2.385	2.943	
lcsia	-.048	.000	.037	.200	-.124	.022	
2 (Constant)	1.531	-.192 ^b	1.176 ^b	.138 ^b	-1.254 ^b	3.204 ^b	
lcsia	.343	.045 ^b	.275 ^b	.148 ^b	-.049 ^b	1.002 ^b	
rsta	1.097	.193 ^b	1.151 ^b	.284 ^b	-.494 ^b	3.851 ^b	
lcsiarsta	-.380	-.045 ^b	.267 ^b	.100 ^b	-1.020 ^b	-.005 ^b	

a. Unless otherwise noted, bootstrap results are based on 5000 bootstrap samples

b. Based on 4999 samples



Impact of External locus of control on geriatric depression with and without religiosity as a Moderator (Hypothesis 2b & 4b)

Bootstrap

Bootstrap Specifications

Sampling Method	Simple	
Number of Samples		5000
Confidence Interval Level		95.0%
Confidence Interval Type	Percentile	

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	lcsea ^b	.	Enter
2	rsta, lcsearsta ^b	.	Enter

a. Dependent Variable: GDSC2

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.290 ^a	.084	.082	.777
2	.310 ^b	.096	.089	.774

a. Predictors: (Constant), lcsea

b. Predictors: (Constant), lcsea, rsta, lcsearsta

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.181	1	21.181	35.111	.000 ^b
	Residual	230.444	382	.603		
	Total	251.625	383			
2	Regression	24.129	3	8.043	13.435	.000 ^c
	Residual	227.496	380	.599		
	Total	251.625	383			

a. Dependent Variable: GDSC2

b. Predictors: (Constant), lcsea

c. Predictors: (Constant), lcsea, rsta, lcsearsta

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.791	.121		14.789	.000
	Lcsea	.188	.032	.290	5.925	.000
2	(Constant)	2.092	.757		2.762	.000
	Lcsea	.227	.203	.351	1.119	.266
	Rsta	-.285	.727	-.072	-.392	.498
	lcsearsta	-.039	.195	-.072	-.199	.849

a. Dependent Variable: GDSC2

Bootstrap for Coefficients

Model	B	Bootstrap ^a				
		Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval	
					Lower	Upper
1 (Constant)	1.791	-.003	.143	.000	1.508	2.061
lcsea	.188	.001	.035	.000	.119	.256
2 (Constant)	2.092	-.086	.908	.009	-.177	3.465
lcsea	.227	.017	.213	.199	-.101	.759
rsta	-.285	.083	.876	.696	-1.568	1.948
lcsearsta	-.039	-.017	.204	.816	-.553	.266

a. Unless otherwise noted, bootstrap results are based on 5000 bootstrap samples



Impact of powerful others locus of control on geriatric depression with and without religiosity as a Moderator (2c & 4c)

Bootstrap

Bootstrap Specifications

Sampling Method	Simple
Number of Samples	5000
Confidence Interval Level	95.0%
Confidence Interval Type	Percentile

Regression

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	Lcspa	.	Enter
2	rsta, lcsparsta ^b	.	Enter

a. Dependent Variable: GDSC2

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.050 ^a	.003	.000	.811
2	.125 ^b	.016	.008	.807

a. Predictors: (Constant), Lcspa

b. Predictors: (Constant), lcspa, rsta, lcsparstab

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.181	1	13.352	34.121	.000 ^b
	Residual	231.444	382	.657		
	Total	251.625	383			
2	Regression	23.911	3	8.304	13.345	.000 ^c
	Residual	227.714	380	.652		
	Total	251.625	383			

a. Dependent Variable: GDSC2

b. Predictors: (Constant), Lcspa

c. Predictors: (Constant), lcspa, rsta, lcsparstab

Coefficients*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.336	.142		16.455	.000
	Lcspa	.042	.043	.050	.979	.000
2	(Constant)	3.441	.968		3.556	.000
	Lcspa	-.169	.302	-.202	-.560	.576
	Rsta	-1.069	.935	-.272	-1.143	.254
	lcsparsta	.206	.293	.300	.703	.483

a. Dependent Variable: GDSC2

Bootstrap for Coefficients

Model	B	Bootstrap				
		Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval	
					Lower	Upper
1 (Constant)	2.336	-.003	.142	.000	2.105	2.554
Lcspa	.042	.001	.043	.248	-.029	.114
2 (Constant)	3.441	-.040	.968	.000	1.510	5.329
Lcspa	-.169	.011	.302	.567	-.831	.455
Rsta	-1.069	.038	.935	.192	-2.867	.820
lcsparsta	.206	-.011	.293	.475	-.401	.846

a. Unless otherwise noted, bootstrap results are based on 5000 bootstrap samples



Impact of demographic variables (Children, Socioeconomic status & Family size on geriatric depression (Hypothesis 5)

Bootstrap

Bootstrap Specifications

Sampling Method	Simple
Number of Samples	5000
Confidence Interval Level	95.0%
Confidence Interval Type	Percentile

Regression

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	children, socioeconomic, family size	.	Enter

- a. Dependent Variable: GDSC2
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.271 ^a	.074	.066	.783

- a. Predictors: (Constant), children, socioeconomic, family size

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	18.543	3	6.181	10.077	.000 ^b
	Residual	233.082	380	.613		
	Total	251.625	383			

- a. Dependent Variable: GDSC2
b. Predictors: (Constant), children, socioeconomic, family size

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.741	.225		12.201	.000
	Family size	.014	.058	.017	.243	.032
	socioeconomic	-.280	.059	-.264	-4.788	.000
	children	.141	.055	.184	2.562	.011

- a. Dependent Variable: GDSC2

Bootstrap for Coefficients

Model		B	Bootstrap				
			Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval	
						Lower	Upper
1	(Constant)	2.741	.004	.247	.000	2.259	3.231
	family size	.014	-.002	.062	.000	-.110	.130
	socioeconomic	-.280	.001	.050	.000	-.376	-.180
	children	.141	.000	.058	.001	.028	.254

- a. Unless otherwise noted, bootstrap results are based on 5000 bootstrap samples

Impact of Gender on geriatric depression (Hypothesis 5)

Bootstrap

Bootstrap Specifications

Sampling Method	Simple
Number of Samples	5000
Confidence Interval Level	95.0%
Confidence Interval Type	Percentile

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
GDSC2	Equal variances assumed	4.223	.041	.821	382	.412
	Equal variances not assumed			.830	381.450	.407

Bootstrap for Independent Samples Test

		Mean Difference	Bootstrap			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
GDSC2	Equal variances assumed	.068	.000	.082	-.091	.225
	Equal variances not assumed	.068	.000	.082	-.091	.225

a. Unless otherwise noted, bootstrap results are based on 5000 bootstrap samples

Impact of Marital status on geriatric depression (Hypothesis 5)

Bootstrap

Bootstrap Specifications

Sampling Method	Simple
Number of Samples	5000
Confidence Interval Level	95.0%
Confidence Interval Type	Percentile

One way

ANOVA

GDSC2

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	20.397	3	6.799	11.174	.000
Within Groups	231.228	380	.608		
Total	251.625	383			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: GDSC2

	(I) marital	(J) marital	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	married	unmarried	-.429*	.085	.000	-.65	-.21
		divorced	-.121	.150	.854	-.51	.27
		widow	.348	.204	.322	-.18	.87
	unmarried	married	.429*	.085	.000	.21	.65
		divorced	-.308	.150	.173	-.08	.70
		widow	.777*	.204	.001	.25	1.30
	divorced	married	.121	.150	.854	-.27	.51
		unmarried	-.308	.150	.173	-.70	.08
		widow	.469	.239	.204	-.15	1.09
	widow	married	-.348	.204	.322	-.87	.18
		unmarried	-.777*	.204	.001	-1.30	-.25
		divorced	-.469	.239	.204	-1.09	.15

*. The mean difference is significant at the 0.05 level.

Impact of Education on geriatric depression (Hypothesis 5)

Bootstrap

Bootstrap Specifications

Sampling Method	Simple
Number of Samples	5000
Confidence Interval Level	95.0%
Confidence Interval Type	Percentile

One way

ANOVA

GDSC2

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	26.358	6	4.393	7.352	.000
Within Groups	225.267	377	.598		
Total	251.625	383			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: GDSC2

Tukey HSD

(I) education	(J) education	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PRIMARY	MIDDLE	-.375	.209	.551	-.99	.24
	MATRIC	.188	.209	.973	-.43	.81
	FA/FSc	-.609*	.125	.000	-.98	-.24
	BA/BSc	-.571*	.108	.000	-.89	-.25
	MA/MSc	-.292	.137	.335	-.70	.11
	MPhil/PhD	-.375	.158	.211	-.84	.09
MIDDLE	PRIMARY	.375	.209	.551	-.24	.99
	MATRIC	.563	.273	.380	-.25	1.37
	FA/FSc	-.234	.216	.932	-.87	.41
	BA/BSc	-.196	.207	.964	-.81	.42
	MA/MSc	.083	.223	1.000	-.58	.74
	MPhil/PhD	.000	.237	1.000	-.70	.70
MATRIC	PRIMARY	-.188	.209	.973	-.81	.43
	MIDDLE	-.563	.273	.380	-1.37	.25
	FA/FSc	-.797*	.216	.005	-1.44	-.16
	BA/BSc	-.759*	.207	.005	-1.37	-.15
	MA/MSc	-.479	.223	.327	-1.14	.18
	MPhil/PhD	-.563	.237	.211	-1.26	.14
FA/FSc	PRIMARY	.609*	.125	.000	.24	.98
	MIDDLE	.234	.216	.932	-.41	.87

	MATRIC	.797*	.216	.005	.16	1.44
	BA/BSc	.038	.121	1.000	-.32	.40
	MA/MSc	.318	.148	.324	-.12	.76
	MPhil/PhD	.234	.167	.801	-.26	.73
BA/BSc	PRIMARY	.571*	.108	.000	.25	.89
	MIDDLE	.196	.207	.964	-.42	.81
	MATRIC	.759*	.207	.005	.15	1.37
	FA/FSc	-.038	.121	1.000	-.40	.32
	MA/MSc	.280	.133	.356	-.12	.68
	MPhil/PhD	.196	.155	.866	-.26	.66
MA/MSc	PRIMARY	.292	.137	.335	-.11	.70
	MIDDLE	-.083	.223	1.000	-.74	.58
	MATRIC	.479	.223	.327	-.18	1.14
	FA/FSc	-.318	.148	.324	-.76	.12
	BA/BSc	-.280	.133	.356	-.68	.12
	MPhil/PhD	-.083	.176	.999	-.61	.44
MPhil/PhD	PRIMARY	.375	.158	.211	-.09	.84
	MIDDLE	.000	.237	1.000	-.70	.70
	MATRIC	.563	.237	.211	-.14	1.26
	FA/FSc	-.234	.167	.801	-.73	.26
	BA/BSc	-.196	.155	.866	-.66	.26
	MA/MSc	.083	.176	.999	-.44	.61

*. The mean difference is significant at the 0.05 level.

Bootstrap for Multiple Comparisons

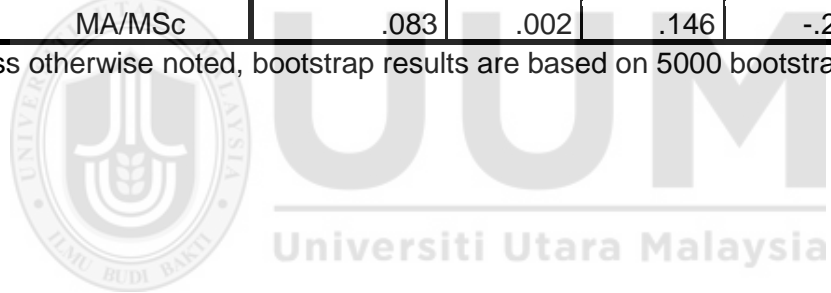
Dependent Variable: GDSC2

Tukey HSD

(I) education	(J) education	Mean Difference (I- J)	Bootstrap ^a			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
PRIMARY	MIDDLE	-.375	.004	.385	-1.122	.383
	MATRIC	.188	-.005	.252	-.309	.676
	FA/FSc	-.609	.003	.128	-.855	-.352
	BA/BSc	-.571	.000	.081	-.723	-.411
	MA/MSc	-.292	.002	.123	-.529	-.045
	MPhil/PhD	-.375	.000	.101	-.571	-.179
MIDDLE	PRIMARY	.375	-.004	.385	-.383	1.122
	MATRIC	.563	-.010	.454	-.333	1.450
	FA/FSc	-.234	-.002	.402	-1.038	.537
	BA/BSc	-.196	-.004	.390	-.958	.560
	MA/MSc	.083	-.002	.398	-.700	.869
	MPhil/PhD	.000	-.004	.394	-.800	.776
MATRIC	PRIMARY	-.188	.005	.252	-.676	.309
	MIDDLE	-.563	.010	.454	-1.450	.333
	FA/FSc	-.797	.008	.274	-1.319	-.245
	BA/BSc	-.759	.006	.256	-1.252	-.249
	MA/MSc	-.479	.007	.275	-1.008	.062
	MPhil/PhD	-.563	.006	.266	-1.073	-.033
FA/FSc	PRIMARY	.609	-.003	.128	.352	.855

	MIDDLE	.234	.002	.402	-.537	1.038
	MATRIC	.797	-.008	.274	.245	1.319
	BA/BSc	.038	-.002	.140	-.241	.316
	MA/MSc	.318	.000	.167	-.015	.646
	MPhil/PhD	.234	-.002	.151	-.064	.527
BA/BSc	PRIMARY	.571	.000	.081	.411	.723
	MIDDLE	.196	.004	.390	-.560	.958
	MATRIC	.759	-.006	.256	.249	1.252
	FA/FSc	-.038	.002	.140	-.316	.241
	MA/MSc	.280	.002	.134	.020	.543
	MPhil/PhD	.196	.000	.116	-.036	.421
MA/MSc	PRIMARY	.292	-.002	.123	.045	.529
	MIDDLE	-.083	.002	.398	-.869	.700
	MATRIC	.479	-.007	.275	-.062	1.008
	FA/FSc	-.318	.000	.167	-.646	.015
	BA/BSc	-.280	-.002	.134	-.543	-.020
	MPhil/PhD	-.083	-.002	.146	-.380	.201
MPhil/PhD	PRIMARY	.375	.000	.101	.179	.571
	MIDDLE	.000	.004	.394	-.776	.800
	MATRIC	.563	-.006	.266	.033	1.073
	FA/FSc	-.234	.002	.151	-.527	.064
	BA/BSc	-.196	.000	.116	-.421	.036
	MA/MSc	.083	.002	.146	-.201	.380

a. Unless otherwise noted, bootstrap results are based on 5000 bootstrap samples



Impact of Age on geriatric depression (Hypothesis 5)

Bootstrap

Bootstrap Specifications

Sampling Method	Simple
Number of Samples	5000
Confidence Interval Level	95.0%
Confidence Interval Type	Percentile

One way

ANOVA

GDSC2

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.893	2	3.446	5.365	.005
Within Groups	244.732	381	.642		
Total	251.625	383			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: GDSC2

Tukey HSD

(I) age	(J) age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
60-64	65-69	-.158	.086	.157	-.36	.04
	70-74	.458	.211	.078	-.04	.96
65-69	60-64	.158	.086	.157	-.04	.36
	70-74	.616*	.207	.009	.13	1.10
70-74	60-64	-.458	.211	.078	-.96	.04
	65-69	-.616*	.207	.009	-1.10	-.13

*. The mean difference is significant at the 0.05 level.

Bootstrap for Multiple Comparisons

Dependent Variable: GDSC2

Tukey HSD

(I) age	(J) age	Mean Difference (I-J)	Bootstrap			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
60-64	65-69	-.158	.000	.081	-.317	-.002
	70-74	.458	-.002	.260	-.069	.961
65-69	60-64	.158	.000	.081	.002	.317
	70-74	.616	-.002	.259	.090	1.118
70-74	60-64	-.458	.002	.260	-.961	.069
	65-69	-.616	.002	.259	-1.118	-.090

a. Unless otherwise noted, bootstrap results are based on 5000 bootstrap samples