

# Religiosity and Depression among the Elderly in Taiwan

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# Introduction

1. During old age period:
  - ① Decline of Physical ability
  - ② Children's living home
  - ③ Disengagement of role
  
2. Rapid population aging

# Previous Research Finding

1. Five and 11 European countries' elderly studies in 2001 by Braam A.W.
2. Brat's study in 2001
3. Sonnerberg et.al's study in 2000
4. Weathly's study in 2000

# Research Objectives

- To study the relationship between religious believe and depression among the elderly aged 60 and above in Taiwan.
- More devotion to religion, Less likely to have depression

# The Data

- 1999 Survey of Health and Living Status of the Elderly in Taiwan (The 4th wave) conducted by the Taiwan Institute of Family Planning
- National representative sample
- Those elderly aged 60 and above at the time of the survey
- 3,530 elderly

# Conceptual Framework

## Background characteristics

Sex Age

Years of education

Ethnicity Currently working?

## Environmental Characteristics

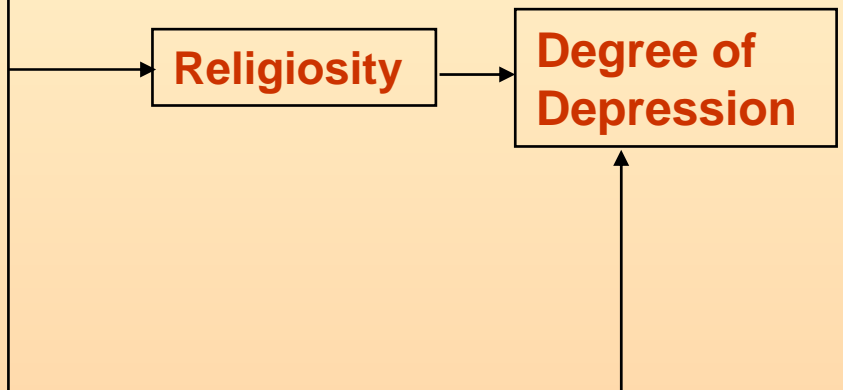
Type of residence

Family structure

Spouse alive?

## Health Status

Self-assessed health status



# Variable Description

## 1. Measure of religiosity:

Mainly based on the responses to the 12 questions related to religion to derive the total score to measure religiosity. Range of the score is between 0 and 30

## 2. Measure of depression:

Mainly based on the response to the 10 items of the CES-D measure to derive the total score to measure the degree or level of depression. Range of the score is between 0 and 30.

# F10. What is your religion?

- 0: None
- 1: Taoist or traditional folk religion
- 2: Buddhist
- 3: Christian
- 4: Catholic
- 5: Yi Kuan Tao
- 6: Muslim
- 7: Other



F11. Next, I want to mention some religious activities. Please tell me **how often** you do each activity

Activity	Often	Some-times	Rarely	Never	Remark
1). At home, pray, burn incense, worship gods or Buddha	1	2	3	4	
2.) Read scriptures	1	2	3	4	
3.) Go to church or temple for worship	1	2	3	4	
4.) Watch or listen to religious program on TV or radio	1	2	3	4	

F12. I would like to ask if you have had any of the following experiences or have done any of the following things.

Activity	Often	Some-times	Rarely	Never	Remark
1). Pray to the Lord, to gods or to Buddha when you meet some difficulty, to help you to feel more peaceful	1	2	3	4	
2.) Before you make an important decision you will first ask for guidance from the Lord, from gods or from Buddha	1	2	3	4	
3.) Praying to the Lord or to gods helps to relieve your worry and stress	1	2	3	4	

F13. Next, I would like to ask about your beliefs. For each item, tell me if you believe it.

Activity	Believes	Somewhat believes	Does not believe very much	Does not believe at all	Remarks
1). Do you believe that there is a heaven and a hell?	1	2	3	4	
2.) Do you believe that when a person dies, their spirit is still living?	1	2	3	4	
3.) Do you believe that death is just the passage to paradise or heaven, not really the end?	1	2	3	4	
4.) Do you believe that the afterlife will be better than life in this world?	1	2	3	4	

## MEASURE OF MELANCHOLIA

C36. Everyone has mood changes. **In the past year**, have you experienced the following situations or feelings? :

**[If yes, continue asking:]** Does this happen to you rarely, sometimes, often, or chronically?  
(Over 4 days out of the week, 2-3 days, or only one day?)

In the past week, were you or did you:	0. No	Yes			Notes
		1. Rarely (one day)	2. Sometimes (2-3 days)	3. Often or chronically (over 4 days)	
(1) Not interested in eating, have a poor appetite					
(2) Feel that doing anything was exhausting					
(3) Sleep poorly (unable to sleep)					
(4) Feel you were in a terrible mood					
(5) Feel lonely (isolated, with no companions)					
(6) Feel people around you weren't nice to you (were unfriendly)					
(7) Feel anguished					
(8) Unable to gather your energy to do things (had no will to do anything)					
(9) Feel joyful					
(10) Feel that your life was going well					

# Research Method

- Using Multiple Regression Analysis to do Multivariate Analysis for the whole sample and also for men and women separately

**Table 1. Frequency Distribution of Background Characteristics, Environmental Characteristics and Health Status of the Elderly in Taiwan**

Variables	N		Variables	N	
<u>Background Characteristics</u>			<u>Type of residence</u>		
<u>Gender</u>			City	1,785	50.5
Male	1,899	53.8	Urban town	677	19.2
Famale	1,631	46.2	Rural town	1,068	30.3
<u>Ethnicity</u>			<u>Spouse alive</u>		
Fukienese	2,220	62.9	w/o spouse	1,326	37.6
Hakkanese	574	16.3	w/ spouse	2,204	62.4
Mainlander	725	20.5	<u>Family structure</u>		
<u>Currently working</u>			Live alone	366	10.4
No	3,019	85.5	w/ spouse	669	19.0
Yes	511	14.5	Two generations	798	22.6
<u>Health status</u>			Three generations	1,616	45.7
<u>Self-Assessed Health status</u>			Others	81	2.3
Good	1,087	30.8	<hr/>		
Fair	1,164	33.0	Total	3,530	100.0
Poor	1,279	36.2	<hr/>		

There are 11 aboriginal elderly in the sample not shown in the table, thus percentage total dose not add up to 100.

**Table 2. Mean and Standard Deviation % the Religiosity Score and Depression Score, by Background Characteristics, Environmental Characteristics and Health status.**

Variables	N	Religiosity $\bar{X}(SD)$	Degree of depression $\bar{X}(SD)$
<b>Background Characteristics</b>			
<b><u>Gender</u></b>			
Male	1,899	5.83(5.22)	4.54(5.82)
Female	1,631	8.73(5.60)	6.42(6.66)
<b><u>Ethnicity</u></b>			
Fukienese	2,220	7.84(5.27)	5.58(6.36)
Hakkanese	574	7.38(5.56)	5.06(6.03)
Mainlander	725	4.94(5.98)	5.16(6.25)
<b><u>Currently working</u></b>			
No	3,019	7.06(5.63)	5.71(6.49)
Yes	511	7.83(5.28)	3.63(4.58)
<b>Living environment</b>			
<b><u>Type of residence</u></b>			
City	1,785	7.13(5.86)	5.43(6.37)
Urban town	677	7.28(5.49)	5.44(6.05)
Rural town	1,068	7.15(5.17)	5.35(6.31)
<b><u>Spouse alive</u></b>			
w/o spouse	1,326	7.24(5.93)	6.59(7.07)
w/ spouse	2,204	7.13(5.37)	4.70(5.66)
<b><u>Family structure</u></b>			
Live alone	366	6.48(6.14)	6.93(7.42)
w/ spouse	669	7.46(5.41)	4.64(5.38)
Two generations	798	7.03(5.64)	5.71(6.61)
Three generations	1,616	7.40(5.45)	5.24(6.11)
Others	81	4.56(5.76)	5.38(6.89)
<b>Health status</b>			
<b><u>Self-assessed health status</u></b>			
Very good	361	7.47(5.90)	2.63(3.74)
good	726	7.51(5.56)	3.06(3.95)
Fair	1,164	7.41(5.45)	4.56(5.04)
Poor	997	7.07(5.57)	7.88(7.02)
Very poor	282	5.21(5.48)	9.80(9.55)

# Table 3. Multiple Regression Analysis of the Factors Affecting Religiosity and Depression of the Elderly (N = 3,530) in Taiwan

Explanatory Variables	Religiosity				Degree of Depression					
	M1		M2		M1		M2		M3	
	b	(SE)	b	(SE)	b	(SE)	b	(SE)	b	(SE)
Intercept	15.01	(1.06)	15.93	(1.07)	8.58	(1.22)	4.76	(1.18)	3.06	(1.21)
Sex <sup>1</sup>	-3.00***	(.21)	-3.05***	(.21)	-.83***	(.24)	-.60**	(.23)	-.27	(.24)
Age	-.09***	(.01)	-.08***	(.01)	.00	(.01)	-.03*	(.02)	-.02	(.02)
Years of education	-.11***	(.02)	-.09***	(.02)	-.19***	(.03)	-.12***	(.03)	-.13***	(.03)
Currently working or not <sup>2</sup>	.97***	(.27)	.77**	(.27)	-1.44***	(.31)	-.62*	(.30)	-.71*	(.30)
Fukienses	-.47	(.25)	-.48	(.25)	-.13	(.29)	-.07	(.28)	-.02	(.27)
Hakkaneses	-2.00***	(.26)	-2.00***	(.25)	.32	(.30)	.30	(.28)	.51	(.28)
Spouse alive <sup>3</sup>	-.14	(.23)	-.14	(.23)	-.94***	(.27)	-.95***	(.26)	-.93***	(.26)
City	.28	(.25)	.36	(.25)	-.22	(.28)	-.55*	(.27)	-.58*	(.27)
Urban town	-.21	(.21)	-.17	(.21)	-.36	(.25)	-.57*	(.23)	-.55*	(.23)
Living alone	.33	(.41)	.27	(.40)	-1.09*	(.47)	-.85	(.45)	-.87*	(.44)
Living with souse only	-.07	(.36)	-.06	(.36)	-.58	(.42)	-.64	(.40)	-.63	(.40)
Living w/ children or grandchildren only (2 generations)	.08	(.34)	.03	(.34)	-1.42***	(.39)	-1.22***	(.37)	-1.23***	(.37)
Living with children and grandchildren (3 generations)	-1.56**	(.61)	-1.44*	(.61)	-.76	(.71)	-1.24	(.67)	-1.09	(.67)
Self-assessed health status <sup>4</sup>			-.44***	(.08)			1.84***	(.09)	1.89***	(.09)
Religiosity									.11***	(.02)
Adjusted R <sup>2</sup>	0.113		.119		.054		.148		.156	

Notes 1.Male = 1 Female = 0

2.Currently working = 1 Currently not working = 0

3.Spouse alive = 1 w/o Spouse = 0

4.Very good = 1 good = 2 Fair = 3 Poor = 4 Very poor = 5

\*p<.05 \*\*p<.01 \*\*\*p<.001



# Table 4. Multiple Regression Analysis of the Factors Affecting Depression of the Male and Female Elderly in Taiwan

Explanatory Variables	Degree of Depression							
	Male				Female			
	M1		M2		M1		M2	
	b	(SE)	b	(SE)	b	(SE)	b	(SE)
Intercept	4.31	(1.56)	3.77	(1.58)	5.15	(1.86)	1.81	(1.94)
Age	-.03	(.02)	-.03	(.02)	-.04	(.02)	-.02	(.02)
Years of education	<b>-.10***</b>	(.03)	<b>-.11***</b>	(.03)	<b>-.17***</b>	(.05)	<b>-.19***</b>	(.05)
Currently working or not <sup>1</sup>	<b>-.70*</b>	(.33)	<b>-.76*</b>	(.33)	-.65	(.61)	-.72	(.61)
Fukienses	-.03	(.36)	.02	(.36)	-.08	(.42)	-.03	(.42)
Hakkaneses	-.16	(.32)	.02	(.33)	<b>1.19*</b>	(.56)	<b>1.13*</b>	(.56)
Spouse alive <sup>2</sup>	<b>-.87**</b>	(.36)	<b>-.93**</b>	(.36)	<b>-1.02**</b>	(.38)	<b>-.86*</b>	(.38)
City	<b>-1.17***</b>	(.35)	<b>-1.22***</b>	(.36)	.04	(.42)	.06	(.42)
Urban town	<b>-.65*</b>	(.30)	<b>-.67*</b>	(.30)	-.47	(.37)	-.38	(.36)
Living alone	-.64	(.56)	-.64	(.56)	-1.31	(.73)	-1.28	(.72)
Living with souse only	-.37	(.52)	-.35	(.52)	-1.14	(.64)	-1.09	(.63)
Living w/ children or grandchildren only (2 generations)	<b>-1.23**</b>	(.50)	<b>-1.22**</b>	(.49)	<b>-1.50**</b>	(.58)	<b>-1.45*</b>	(.58)
Living with children and grandchildren (3 generations)	-.95	(.77)	-.85	(.77)	-1.82	(1.26)	-1.60	(1.24)
Self-assessed health status <sup>3</sup>	<b>1.70***</b>	(.12)	<b>1.71***</b>	(.12)	<b>2.00***</b>	(.15)	<b>2.13***</b>	(.15)
Religiosity			<b>.06**</b>	(.03)			<b>.16***</b>	(.03)
Adjusted R <sup>2</sup>	.138		.140		.125		.142	
N	(1,899)		(1,899)		(1,631)		(1,631)	

Notes 1. Currently working = 1 Currently not working = 0

2. Spouse alive = 1 w/o Spouse = 0

3. Very good = 1 good = 2 Fair = 3 Poor = 4 Very poor = 5

\*p<.05

\*\*p<.01

\*\*\*p<.001

# Conclusion

- Although we hypothesized that **the more devotion to religion is, the less likely to have depression,** result of multivariate analysis shows that **there is a significant positive relationship between religiosity and depression instead of negative relationship.**
- Since we are using **in this study, research result seems to show that higher depressed elderly tends to seek for religious help and thus have higher religiosity.**

# Future Study

- To entangle this causal relationship, we plan to use data on religiosity in the 1999 Elderly Survey to predict level of depression in the 2003 Elderly Follow-up Survey by using the follow-up sample