

Analyze the Correlation between Self-Concept and Depression Among seniors in the Community

Pei-Ti Hsu¹ and Jeu -Jung Chen²

¹Ching Kuo Institute of Management and Health, Taiwan.

²HungKuang University, Taiwan.

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ABSTRACT

To understand the conditions of the elder's depression and to explore the connections between personal background, self-concept, and depression. The population included 366 samples of the older people above 65 in Ren-Ai district, Keelung City, Taiwan. A self-designed structured questionnaire was used as our research tool. Our data were collected through both questionnaire and one-on-one interview, and then processed and analyzed by package software - IBM SPSS Statistics 20 (Windows version). The average depression scores from our research targets were 2.69 (± 2.76). Some major factors that might have to do with the elder's depression included gender, age, education degree, marriage status, self-consciousness of economic condition, chronic disease index, self-consciousness of health condition, self-concept, and social support. The degree of depression developed by the population of higher education degree (such as college) is less than lower education degree (below junior high school and the illiterate); the female are less than the male; the married and the widowed are less than the divorced; self-consciousness of the economic sufficiency is less than economic insufficiency; and the self-consciousness of healthy condition is less than unhealthy condition. The age and chronic disease index both are positively correlated to the degree of depression, but self-concept and social support are negatively correlated. Lower education degree (below junior high school and the illiterate), self-consciousness of economic condition, self-consciousness of health, age, chronic disease index, self-concept, and social support all have important forecasting capability for the elder's depression. Self-concept, among them, has the highest explaining capability for the elder's depression. Our study suggested self-concept and social support should be emphasized for treating the elder's depression. This should be considered for any future researches.

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Introduction

The elder's population has growing fast thanks to advanced medical technology and prolonging human average life. The criterion set by United Nations for an "aging society" is that the people aged 65 and over comprise 7% of the total population [1] in a country. Based on this criterion, Taiwan has qualified as an aging society since September 1993, with 11.98% of residents being aged 65 and over in 2015 and an aging index of 68.6% [2]. During the aging process of a person, body function deteriorates, health condition declines, and senile diseases are developed, causing changes in self-concept and depression, one of the most common psychological problems faced by the old generation. Thus, some issues related to the elder's depression should be particularly addressed.

Depression has been always mistaken for an aging phenomenon and thus been ignored [4]. Physical disability of the elders is one of the dangerous factors causing depression [5]. Also, bad health condition would also exacerbate depression [6]. Symptoms of depression include sadness, bad appetite, insomnia, frustration, disappointment, and sometimes being suicidal [7]. Depression could be physiological,

psychological, or behavioral. Common physiological symptoms of depression include fatigue, limb awkwardness, insomnia, drowsiness, body weight loss, ache, stomach cramp, palpitations, and muscle tightness. Psychological symptoms include sadness, anger, anxiety, low spirits, inadvertence, low self-respect, decreased libido, pessimism, despair, and lack of values. Behavioral symptoms include weeping, confrontation, less social interaction, less leisure activities, and abuse of substance [8]. There are several impacts of depression on chronic disease patients: (1) additional burden on medical expenses, such as general medical care, professional medical care, laboratory test, medicine cost, hospital cost, and psychological care; (2) exacerbation of disease symptoms; (3) worsening of dysfunction; (4) loss of self-care capability and obedience of medication; (5) change in life pattern (exercise, dieting, smoking); (6) increase in mortality rate [9]. From the above analyses, we learned that depression could aggravate negative emotion in a person and thus isolate him from social gatherings. It could also increase medical costs of chronic diseases, exacerbate disease symptoms, and reduce a patient's ability to take care of himself.

Tele:

E-mail address: bettyhsu1@gmail.com

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Depression is also tightly correlated to a person's involvement to social interaction [10]. An old person could be predisposed to depression if family support is not enough or if he or she is not cared by family members or not satisfied with their relations [11]. The degree and quality of social support has an impact on whether a patient's disease could trigger depression [12]. A study of the life events of female's pain showed that being singled or lack of family's support would trigger depression [13].

The social role of an old person might change from middle age to old age. Thus, people need to redefine their self-concept by continuing to interact with their communities. People could affirm or readjust their self-image by incorporating new experiences into their self-concepts and assimilate their self-concepts into new realities. When a new role is transformed into a stable self-concept and change in reality, such self-concept is then successfully adjusted [14]. However, when the self-concept of an old person is built on social role and other's expectation, the loss of role could hurt his or her self-respect. And also, any change or loss of the elder's social role could have a negative impact on their self-respect. The so-called self-respect is a kind of self-evaluation of emotion; and the so-called self-concept is a kind of cognitive definition for self-identification. Psychologists define personality as a regular inclination of personal behavior. When an old person thinks of himself as an old person, he might behave as an old person as he thinks of himself. This kind of mindset could be one of the factors that influence the elder's personality. For example, if one thinks "I'm too old for this", he might feel too bored or tired to do anything. This kind of senile behavior is actually generated by one's self-concept, as it reflects a person's confidence towards himself [15].

The suicide committed by the elders could be caused by a loss of psychological society, which makes them feel like being deprived of life quest, work, social status, spouses, and friends. The elder's psychological status has a significant influence on suicide commitment [16]. Therefore, positive self-concept and return to the psychological society would be important to treat the elder's depression. Based on the above considerations, our research has the following objectives:

- (1) To understand personal background and depression conditions of research targets.
- (2) To explore the connections between personal background, self-concept, social -support, and depression conditions.
- (3) To explore the forecasting capability of personal background, self-concept, and social -support on depression conditions.

Materials and Methods

1. Research Structure

Based on the study purpose and related papers, our research is structured as the following diagram (Figure 1), which helps to explore the connections between personal background, self-concept, self-support, and depression.

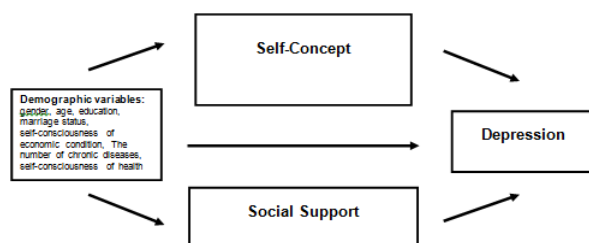


Figure 1. Research Structure.

2. Data Collection and Ethic Concerns

Purposive sampling selected participants from Ren-Ai District in Keelung City, Taiwan. A total of 366 seniors were as participants. The sampling was conducted under the approval of the Health Bureau of Ren-Ai District in Keelung City. All the research targets were the people over 65 without obvious body impairment. Qualified interviewers who received necessary trainings were appointed to conduct these one-on-one interviews with old people. All the interviewers have obtained the approval from the interviewees before the survey and then informed the interviewees that the data they collected would be used only for this research and would not be used for any other purpose. All the answers were collected anonymously and interviewees could quit the interview at any time if they did not feel comfortable.

3. Research Tools

There were four parts in the questionnaire. The first part is a depression scale especially designed for the old people. The second part and third part covered self-concept and social support, respectively, followed the last part of basic information. In the first part, a fifteen-question, self-statement scale of geriatric depression scale-short form (GDS-SF) was used. Respondents only had to answer yes or no for if they did develop depression symptoms for the past week. The second, third, and last parts of the questionnaire were structured by this research framework and related papers. All those structured questionnaires were reviewed by expert validity index, as well as tested and amended by two nursing experts, one psychological therapist, and one public health expert. All the contents of each question in the questionnaire were thoroughly reviewed. Our research used expert validity index as the content validity index (CVI). Any question that had a CVI value below 0.8 would be further reviewed and judged by experts whether if should be retained or deleted. All the CVI value of each question was added up and the sum was divided by the number of questions to generate the overall CVI value of the questionnaire, which was between 0.85 and 0.94. The questionnaire was retested in April 2013 in order to review the scale's validity. Part of the new samples were randomly selected from the old people in Chao-Lien district and excluded the formal samples from the original statistic population. Thus, the forecasting and retesting samples were the entire old people in Chao-Lien district, which included 160 old people. 64 out of them did not live there but had registered local addresses. The original Cronbach's α of each scale was between 0.76 and 0.94 and the retested value after two weeks was between 0.79 and 0.85, suggesting good consistency and stability in all the scales. The instructions of using the formal questionnaire are listed below:

(1) Elder's depression scale

A fifteen-question, self-stated geriatric depression scale-short form (GDS-SF) was used. Respondents only needed to answer "yes" or "no" for whether they had developed depression symptoms. For any positive-listing question, an answer "yes" gives one point and "no" zero point. For any negative-listing question, an answer "no" gives one point and "yes" zero point. Maximum total score would be 15 points and critical level is 5 points. A score above 5 would suggest the patient had developed depression symptoms. The higher total scores got, the more degree of depression were developed.

(2) Self-concept scale

This scale contained five self-dimensions: age, physiology, psychology, function, and society. There were 25 questions in the scale, of which selection items include

strongly disagree - 1 point; disagree - 2 points; neutral - 3 points; agree - 4 points; and strongly agree - 5 points. The higher the scores were, the more positive the self-concept is.

- Age: including 3 questions, regarding one's opinion towards his actual age
- Physiology: 4 questions, regarding self-evaluation on one's health condition
- Psychology: 6 questions, regarding personal value and emotional stability
- Function: 6 questions, regarding evaluation on one's ability to handle daily life
- Society: 6 questions, regarding the sense of competence for one's social role

(3) Social support scale

The scale measures the social supports received from significant others of the respondents within the past month, such as technical support, emotional support, informational support, social interaction support, and volunteer support. There were 20 questions in the scale, which adopted Likert five point scale, including: never (1 point); seldom (2 points); sometimes (3 points); usually (4 points); and all the time (5 points). The higher the average scores were, the more social support was received, and vice versa.

4. Data Collection and Data Analysis

This research collected data through one-on-one interview. The data collected from the interview were coded, translated, and established. Next, they were statistically processed and analyzed by software package - IBM SPSS Statistics 20 (Windows version). The statistical measures used were listed below:

(1) Descriptive statistics

- To allocate the data of personal background of research targets by frequency and percentage.
- To use average and standard deviation to analyze the distribution of self-concept, social support, and depression condition.

(2) Inferential statistic

a. T-test, one-way ANOVA: To analyze the impact of different demographic variables on self-concept, social support, and depression. When a significant difference was detected, Scheffé post-hoc comparison was conducted to analyze the differences among groups.

b. Pearson product-moment correlation analysis: To analyze the connection between self-concept and depression of research targets as well as the connection between social support and depression.

c. Multiple-regression: To analyze the explanatory capability of personal background, self-concept, and social support on depression of research targets.

All the statistic threshold tested by this research was set at $\alpha = .05$

Results

1. Distribution of Personal Background Factors

Table 1 showed that in the effective samples collected, there were 182 men (49.7%) and 184 women (50.3%). Their age was ranged between 65~98, with an average 75.64(± 6.79). As to education degree, the samples above college accounted for 6.2% (n=23) of total; high school accounted for 9.3% (n=34); junior high school 12.8% (n=47); grade school 37.1% (n=136); and the illiterate 34.6% (n=126). As to marriage status, the unmarried samples accounted for 1.4% (n=5) of total; the married accounted for 73.8% (n=270); the divorced accounted for 1.6% (n=6); and the widowed accounted for 23.2% (n=85).

As to self-consciousness of economic condition, the people who felt their disposable money insufficient accounted for 9.9% (n=36) to total; barely sufficient 22.7% (n=83);

Table 1. Correlation Analysis of Distribution of Personal Background Factors and Depression (N =366).

Independent variables	No. of people	Distribution		Correlation analysis			
		%	Mean(\pm SD)	Mean(\pm SD)	t/F	Post-hoc comparison	Correlation Coefficient
Age			75.64 \pm 6.79				.065 (p<.01)
65~69	76	20.7%		2.26 \pm 2.38			
70~74	107	29.3%		2.77 \pm 2.73			
75~79	75	20.5%		2.52 \pm 2.64			
80~	108	29.5%		3.03 \pm 3.08			
Chronic Disease Index			1.2 \pm 0.92				.14 (p<.001)
0	85	23.2%		2.34 \pm 2.69			
1	158	43.2%		2.54 \pm 2.60			
2	90	24.6%		2.91 \pm 2.72			
3	26	7.2%		3.39 \pm 2.97			
4	7	1.3%		5.80 \pm 5.24			
Gender					2.53 (p<.05)		
male	182	49.7%		2.83 \pm 2.95			
female	184	50.3%		2.54 \pm 2.58			
Education degree					4.83 (p<.01)	1<3,4,5	
1 college	23	6.2%		2.00 \pm 2.26			
2 high school	34	9.3%		2.22 \pm 2.71			
3 junior high school	47	12.8%		2.94 \pm 2.79			
4 grade school	136	37.1%		2.81 \pm 2.74			
5 illiterate	126	34.6%		2.71 \pm 2.86			
Marriage					5.48 (p<.01)	3> 2,4	
1 Unmarried	5	1.4%		3.00 \pm 1.11			
2 Married	270	73.8%		2.67 \pm 2.86			
3 Divorced	6	1.6%		4.50 \pm 3.45			
4 Widowed	85	23.2%		2.60 \pm 2.43			
Self-consciousness of economic condition					46.77 (p<.001)	1>2,3,4 2>3	
1 Insufficient	36	9.9%		4.58 \pm 3.67			
2 Barely sufficient	83	22.7%		2.88 \pm 2.84			
3 Sufficient	216	59.0%		2.36 \pm 2.46			
4 Fairly sufficient	31	8.4%		2.26 \pm 2.36			
Self-consciousness of health condition					26.57 (p<.001)	1>2,3	
1 Unhealthy	96	26.2%		3.38 \pm 3.05			
2 Neutral	12	3.3%		2.08 \pm 1.81			
3 Healthy	258	70.5%		2.46 \pm 2.65			

sufficient 59.0% (n=216); and fairly sufficient 8.4% (n=31).

As to self-consciousness of health condition, the people who felt themselves unhealthy accounted for 26.2% (n=96) of total; neutral 3.3% (n=12); and healthy 70.5% (n=258). The number of chronic diseases developed by those samples was between 0~4, with an average of 1.2(\pm 0.92).

2. Description of Depression Conditions

The average scores of research targets was 2.69 (\pm 2.76). In the geriatric depression scale-short form (GDS-SF), threshold limit value was usually set at 5 points. A score above 5 points indicates the patient had developed depression symptoms. The higher scores were, the more degree of depression developed. The research targets who had depression scores more than 5 points accounted for 16.7% (n=61) of total.

3. Factors Contributing Depression

To understand the relations between each variable and depression, we conducted t-test or one-way ANOVA for both. If there was significant difference, Scheffe's post-hoc test was then used to examine the difference among groups. Also, we used Pearson product-moment correlation analysis for continuous variables and depression. Before doing any statistical analysis between variables and depression, we evaluated the declination and kurtosis of each continuous variable and found that the modulus of declination and kurtosis was both below 1.5, suggesting the existence of normal distribution. The relations between each variable and depression were listed below:

(1) Analysis of the difference between personal background and depression

From table 1, we observed that several factors that contributed to the elder's depression included education degree (F=4.83, p<.01), age (r=.065, p<.01), gender (t=2.53, p<.05), marriage (F=5.48, p<.01), self-consciousness of economic condition (F=46.77, p<.001), chronic disease index (r=.14, p<.001), and self-consciousness of health condition (F=26.57, p<.001). Post-hoc comparison showed that the depression condition in the people with higher education degree (above college) would be less than lower education degree (below junior high school). Age was significantly and positively correlated to depression, as the older people tended to have higher degree of depression than did the younger. Meanwhile, the male were higher than the female. In the post-hoc comparison, the divorced were higher than the married and the widowed; Self-consciousness of "insufficient" economic condition was higher than "barely sufficient", "sufficient", and "fairly sufficient". "Barely sufficient" is higher than "sufficient". Finally, chronic disease index is also significantly positively correlated to depression, as the severer

the patients suffered from chronic diseases, the worse depression conditions they developed. Likewise, self-consciousness of unhealthy conditions was higher than the neutral and healthy groups in the post-hoc comparison.

(2) Connections between self-concept and depression

General scale of self-concept (r=-.312, p<0.001) showed negative correlation to depression at a significant level, suggesting the more negative the self-concept was, the higher depression developed. Several items of self-concept included age (r=-.274, p<0.001), physiology (r=-.248, p<0.001), psychology (r=-.316, p<0.001), function (r=-.087, p<0.001), and society (r=-.115, p<0.001), all showing negative correlation to depression at a significant level. This suggested that when the old people had better self-concept in all aspects, they would have lower depression.

(3) Connections between self-support and depression

Social support had a significantly negative correlation to depression (r= -.231, P<.001), indicating that the more social support sensed by the old people, the less depression they would have.

(4) Multi-regression of factors contributing to depression

In order to realize the factors contributing to the elder's depression, we further conducted regression analysis on the independent variables that were significantly correlated to depression, such as gender, age, education degree, marriage, self-consciousness of economic condition, chronic disease index, self-consciousness of health conditions, self-concept, and social support. Before doing regression analysis, we conducted multicollinearity test on each variable and found that the variance inflation factor (VIF) of each independent variable was ranged between 2.03 to 2.75 (less than 10), tolerance was ranged between 0.53 to 0.72 (over 0.1), and condition index (CI) were less than 30, suggesting that there was no multicollinearity among these independent variables.

From table 3, we learned that these independent variables could explain 18.6% variance in the elder's depression at a statistically significant level (F=31.97, p<.0001). Some important forecasting variables reaching significant levels included high school group (β =.109, p<.0001), junior high school group (β =.185, p<.0001), grade school group (β =.203, p<.0001), the illiterate group (β =.201, p<.0001), male group (β =.071, p<.001), economic condition insufficiency group (β =1.744, p<.0001), self-consciousness of healthy group (β =-.104, p<.0001), neutral group (β =-.066, p<.0001), age (β =.047, p=.021), chronic disease index (β =.140, p<.0001), self-concept (β =-.244, p<.0001), and social support (β =-.105, p<.0001).

Table 2. Correlated Matrix between Variables and Depression (n =366).

	1	2	3	4	5	6	7	8
1 Depression	1							
2 Social support	-.231 p<.001	1						
3 Age	-.274 p<.001	.288 p<.001	1					
4 Physiology	-.248 p<.001	.265 p<.001	.377 p<.001	1				
5 Psychology	-.316 p<.001	.376 p<.001	.295 p<.001	.409 p<.001	1			
6 Society	-.115 p<.001	.253 p<.001	.104 p<.001	.129 p<.001	.358 p<.001	1		
7 Function	-.087 p<.001	.174 p<.001	.134 p<.001	.300 p<.001	.327 p<.001	.095 p<.001	1	
8 Self-concept General Scale	-.312 p<.001	.424 p<.001	.516 p<.001	.597 p<.001	.804 p<.001	.583 p<.001	.623 p<.001	1

Table 3. Regression Analysis on Variables Significantly Correlating to Depression (n =366).

Variables	Regression Coefficient B	Standard Regression Coefficient β	t value	p value
d education (reference group: college)				
high school	1.048	.109	3.792	p <.0001
junior high school	1.539	.185	5.914	p <.0001
grade school	1.168	.203	4.916	p <.0001
the illiterate	1.172	.201	4.831	p <.0001
d gender (reference group: female)				
male	.393	.071	3.314	p =.001
d marriage(reference group: widowed)				
unmarried	.061	.003	.127	p =.899
married	-.008	-.001	-.059	p =.953
divorced	.616	.028	1.393	p =.164
d self-consciousness of economic condition (reference group: fairly sufficient)				
insufficient	1.744	.188	6.790	p <.0001
barely sufficient	.343	.052	1.557	p =.120
sufficient	.024	.004	.120	p =.905
d self-consciousness of health condition (reference group: unhealthy)				
healthy	-1.660	-.104	-5.083	p <.0001
neutral	-.396	-.066	-3.18	p <.0001
age	.019	.047	2.309	p =.021
chronic disease index	.421	.140	6.931	p <.0001
self-concept	-1.383	-.244	-11.131	p <.0001
social support	-.279	-.105	-4.816	p <.0001
R	.439			
R ²	.192			
Adj R ²	.186			
F value	31.97 (p <.0001)			

From the above results, we observed that in the dummy variable of education degree, high school group, junior high school group, and the illiterate group had higher depression than did the above-college group. In the dummy variable of self-consciousness of economic condition, “insufficient” was higher than “fairly sufficient”. As to self-consciousness of health condition, “unhealthy” was higher than “healthy” and “neutral”. In the dummy variable of gender, male was higher than female. At last, age and chronic disease index contributed to the elder’s depression, but self-concept and social support lessened the elder’s depression. Among them, self-concept had the largest modulus of standard regression coefficient.

Conclusions

For those old male people who have below-college education degree, have been divorced, economically insufficient, suffer chronic diseases, and sense themselves unhealthy, we should give extra attention to their mental conditions, treat them with respect, give them best cares according to the depression conditions they develop. It is observed that positive self-concept is negatively correlated to depression. Therefore, to enhance self-concept of old people could effectively help easing their depression. Social support is also a necessary factor to treat the elder’s depression. Healthcare providers should encourage old people to keep joining social activities and stay in touch with family members, other relatives, and friends. Moreover, the nursing staff should try to bring social supports to the old patients, so as to comfort them, ease their depression, and improve their life quality in the disease-suffering period.

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