

A STUDY OF AMERICAN SOCIETY: DOES MENTAL HEALTH CORRELATE AGE OF POPULATION?

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ABSTRACT

Mental health is considered psychological well-being where an individual can enjoy life and create a balance between life and activities. It consists of positive as well as negative aspects of life such as satisfaction, resilience, stress, depression, mental disorder and so on. This study correlated mental health and aging of the American people. We adopted the National Survey of Midlife Development in the United States (MIDUS), 1995-1996 data for solving the research question. People aged 25-74 were selected from working telephone banks in the coterminous United States. Data were collected using computer-assisted telephone interview and mail questionnaire from 7,108 people. The study showed that mental health problem was one of the major concerns of American society. The overall mental health status of the individuals was deteriorated with increase in age. There was a significant association between mental health and age of American people. For addressing the mental health, the state should address psychological disorders considering the age and developmental stages of the citizens.

Keywords: Aging population; American society; correlate; mental health; a psychological disorder

INTRODUCTION

Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.¹ Mental health is regarded as the absence of mental disorders. It is important for the overall health of every individual and it must be given priority as the physical health. However, it has low priority in health program and research; most studies on mental health have been done mainly focusing on mental disorder, disease entities and dementia taking an illness rather than health perspective. Researchers tried to find out the mortality, chronic condition, and major depression. Fewer studies were conducted on the mental well-being of the elder people.²

Mental is a level of psychological well-being whereas an individual can enjoy life and create a balance between life activities. The well-being is described based on various characteristics such as the autonomy of the person, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance that supposedly vary in meaningful ways by personal characteristics including age.² Mental health consists of positive aspects such as quality of life, life satisfaction, and resilience and negative aspects such as stress, depression and mental disorder of life.³⁻⁵

Mental health problems are increasing as major public health concern throughout the world and USA is not an exception.⁶ The numbers of senior citizens are increasing day by day in America with an increase in life expectancy of baby boomers.⁷⁻⁹ Increasing a number of senior citizen results in increased number of mental health problems and psychological difficulties such as depression, suicides, substance abuse and anxiety.¹⁰⁻¹² It is estimated that one-fourth of the senior citizen in the USA faces some kind of mental health problems.⁷ The number of senior citizen with mental health problems expected to increase to 15 million in 2030 compared to 4 million in 1970.¹³ Further, it is expected that mental health problems will be more serious in future as a future cohort of senior citizens is more vulnerable to mental health problems compared to the previous cohort because of increasing life expectancy and cohort changes associated with the history of mental illness and dementia.¹⁴

The increasing number of people with mental health problems do not affect only individual facing it and people who provide care for them but also the socio-economic aspects of whole society. No group of people can escape from the problem however household living in poverty, indigenous group, and people with chronic disease, abused women and neglected elderly are at greater risk of having mental health problems. Further increase in the medical cost of the treatments affects the micro and macro level of economy of the country.¹⁴

Mental health problems are not given priority in aging policy and health policy in the USA. Most of the senior with mental health problems are placed in a nursing home and this is not very effective.¹⁵ Data from home survey shows that 12.1% of individuals residing in a nursing home with some kind of depression; 7% with schizophrenia and 9.4% with mental disorder other than dementia.¹⁶ Depression is most common psychiatric condition among senior citizen in the United States and developed world.¹⁷ “Depression alone accounts for 4.3% of the global burden of disease and is among the largest single causes of disability worldwide”. The world health organization (WHO) estimates that there are 151 million people suffering from depression.¹⁸

Mental disorders lead in increased in suicide and harmful alcohol use however in most parts of the world mental disorder are not given priority for treatment as that of physical health. Further people with mental disorder are among the high mortality rate, WHO report that person with depression and schizophrenia have 40-60% higher chance of premature death than other. Mental illnesses are related to a chronic disease they increase the probability of

having a chronic disease and chronic disease also increase the probability of having mental health problems.¹⁸

There are increasing numbers of aging Americans as population boom in the 1930s and 1940s are reaching their late sixties and seventies. America will be aging rapidly in the upcoming 50 years and will have a large number of a senior citizen in upcoming years. It is estimated that the population age 65 and older will reach nearly 20% in 2030 compared to 12% in 2006. Increase in absolute number from 37 million to 71.5 million.¹⁰ Emotional health is important in older age as at any other time of life. However, it is said that senior citizens are more likely to experience events that affect emotional well-being, such as bereavement or physical disability. It is estimated that from the year 2005–2050, the total number of US adults with the depressive disorder will increase from 33.9 million to 45.8 million, a 35% increase. The increase is projected to be greater in the elderly population aged 65 and older compared to those of young population aged below 65 years.¹⁰ Many types of research have shown that senior citizen report number of negative outcomes such as lower life satisfaction, lower self-esteem, and lower self-efficacy compared to their younger counterparts.^{19,20} These negative outcomes are likely to affect the mental well-being of the individuals. Therefore research is interested to know if mental wellbeing changes with an increase in the age of the individual. To answer this question a comparative study on the mental health of older adults and middle age population will be conducted.

Prior studies showed that mental health varies with the age of the population; people age 55 years and above experiences some kind of mental health problem, among them depression, anxiety, and cognitive impairment were most common. The suicide rate was the highest among the old age people 85 years and above. They had a suicide rate of 45.23% per 10,000 population compared to 11.1 % of overall population, It was also found that the rate of older adults with depressive symptoms increased with age. Aging Americans believe that aging leads to declining health and financial problems. They felt that hearing problem, vision and balance problem were common and the oldest age group most often and they felt isolated, lonely, bored and angry, leading to declining in mental well-being compared to those of younger counterparts.²¹

On the other hand, some studies showed that older adults (age 60 and above) had a lower prevalence of mental health problems compared to younger cohorts because older adults had lower reactivity to life stress, likable, experienced, generous to others, friendly and more coping strategies,(Kim & Choi, 2010).²² A good mental health was higher in individuals age 65 and older compared to that of people age 50 to 64; even after controlling for the physical functioning the oldest age group (age 65 and above) reported significantly better mental health than the middle age group (age 50–64), but not higher than youngest age group (age 35–49).²³

As results of the previous studies were not uniform, this paper aimed to examine the relationship between mental health and age of Americans. This article will help to answer the

mental health among different age group so that this result can be applied to promote mental health. Further, it increases the information on mental health that can be used to strengthen the mental health care system for the betterment of mankind. Moreover, the findings of the proposed study will enhance our ability to work with our aging society. Results will help policymakers, stakeholders and caregivers to develop plan policies and strategies to cope with the mental health problems.

METHODS

We analyzed the National Survey of Midlife Development in the United States (MIDUS), 1995-1996 data for solving the research question.²⁴ The survey investigated the patterns and consequences of midlife development in the areas of physical health, psychological well-being and social responsibility of American society. The data were generated from a nationally representative random-digit-dial sample of non-institutionalized, English-speaking adults. People aged 25-74 were selected from working telephone banks in the coterminous United States. Data were collected using computer-assisted telephone interview (CATI) and mail questionnaire from 7,108 respondents.

The dependent variable of the study is emotional/mental health condition which will be self-assessed or measured by single probe: how will you explain your present emotional health condition, poor, fair, good, very good and excellent. This variable was re-coded as dichotomy poor and fair, good, very good mental health as zero (0) and one (1) equal to excellent mental health as self-assessed health status is an increasingly common measure of health in research. The self-assessed health is an important measurement for the mental and physical health as provides a more holistic view of health which may not be reflected in objective measures such as those based on specific medical diagnoses.²⁵⁻²⁷ Self-assessed health is important because of a unique source of information provided by the bodily sensations that are directly available only to the individual him-or-herself.²⁶

The independent variable of the study will be the age of the respondent. This variable will be recorded into three groups, the age of the respondent ranged from 25 to 34 as youngest age group; the respondent ranged from 34 -54 as middle age group and 54-74 as oldest age group. Other control variables include gender, education level, physical health condition, employment status, marital status, and drinking habits.

The analysis included descriptive statistics of frequencies, percent and mean. Binary logistic regression was used to analyze the relationship between dependent and independent variables. Binary was examined because dependent variable mental health was in the binary outcome as zero and one. One refers to excellent health and zero refers to not excellent health or people saying poor/fair good and very good. Further logistic regression was examined but not a linear regression because the relationship between dependent and independent was not linear like 50% excellent and 50% not excellent or 60% and 40%. But the relationship was

curved like 20% excellent and remaining. Model of logistic regression is as follows:

The logistic regression model considers the relationship between a dichotomous dependent variable and a set of independent variables. The logistic regression model for dichotomous dependent variable Y (y=0, 1) and k independent variables $x_1, x_2, x_3, \dots, x_k$ is as follows:

$$\text{logit}(\text{Pr}(y=1)) = \ln(\text{Pr}(y=1)/\text{Pr}(y=0)) = \ln[\text{Pr}(y=1)/(1-\text{Pr}(y=1))]$$

$$= \alpha + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_k x_k,$$

$$= \alpha + \sum \beta_i x_i$$

$$\text{Or, } \text{Pr}(y=1) = \exp(\alpha + \sum \beta_i x_i) * (1 - \text{Pr}(y=1))$$

$$\text{Or, } \text{Pr}(y=1) = \exp((\alpha + \sum \beta_i x_i) / [1 + \exp(\alpha + \sum \beta_i x_i)])$$

$$= 1 / [1 + 1/\exp(\alpha + \sum \beta_i x_i)],$$

Where, β = regression coefficient

α = constant, and

$\exp(\beta_i)$ = odds ratio of one individual having characteristics i.

RESULTS

Respondents were divided into four age groups. Among the four groups, the highest numbers of respondents were from age group 35-44. More than one-tenth (10.9%) were age group between 65-74 years of old. Around one percent of the respondents does not want to say their age or missing. Majority of the sample were females with 51% compared to males 47.7% and one percent respondents refused to indicate their sex. Almost half of the respondents graduated from high school around one-tenth of the respondents did not have schooling. Marital status was grouped into 5 groups married, separated, divorced, widowed and never married. Among them the majority (65.7%) was married, 12.9% never married and around 15% are divorced or widowed. Majority respondents were working around 63%.

The health of the respondents is divided into four groups poor/ fair, good very good and excellent. More than half of the respondents reported very good mental and physical health status. Around seven percent of respondents said that their mental and physical health is poor/ fair. More than one-fourth of respondents said that their mental health excellent. Most respondents had alcohol drinking habit of less than one day a week. More than one-tenth respondents used alcoholic drinks every day in their life. Only very few respondents (3%) never drank alcohol.

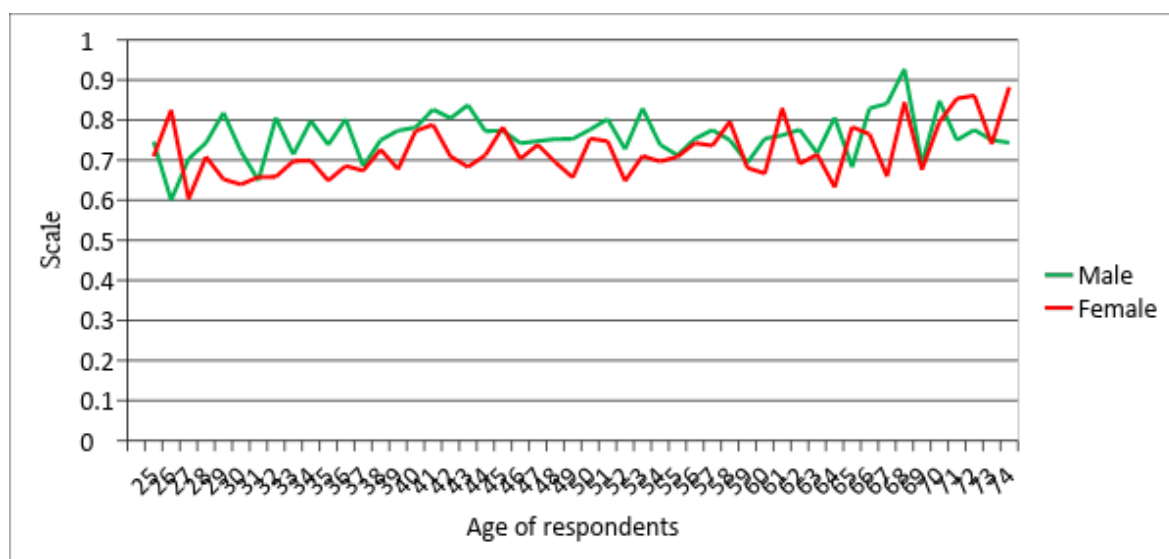


Figure 1: Excellent mental health status among Americans

The excellent mental health condition of male and female was fluctuating at different ages (Figure 1). It can be seen in the figure that on average; male excellent health comparatively looks higher compared to that of the female. However, there were certain ages where female have excellent mental health. Both man and women reported high excellent mental health condition at the age of 66 to 68. However, the percentage of excellent mental health decreased at age of 70.

Table 1 Relationship of various demographic and socio-economic factors on mental health

Variables	Coefficients	Odds ratio	Std. Err	Z	Significance level
Gender					
Female	Reference				
Male	0.29	1.35	0.0663884	4.45	0.000
Age group					
Middle life period	Reference				
Younger life period	0.18196	1.20	0.0820051	2.22	0.026
Oldest life period	0.1490	1.16	0.0789789	1.89	0.05

Marital status					
Married	Reference				
Divorced/separated/	-0.3447	0.70	0.084873	-4.06	0.000
Never married	-0.2546	0.77	0.1003177	-2.54	0.011
Education status					
No school or below High school	Reference				
High school	0.25060	1.28	0.1216367	2.06	0.039
College	0.42087	1.52	0.1262399	3.33	0.001
Graduate from higher education	0.58370	1.79	0.138468	4.22	0.000

Table 2 Relationship of various behavioral factors on mental health

Variables	Coefficients		Std. Err	Z	Significance level
Working Status					
Not working	Reference				
Working	-0.0002	0.99	0.0698784	-0.0	0.997
The frequency of alcohol drinking					
Never drink/ less than	Reference				
Four to five times a	-0.2865	0.75	0.0726612	-3.9	0.000
Everyday	-0.3196	0.72	0.0866729	-3.6	0.000
Physical health					
Poor/fair	Reference				

Good	0.1869	1.20	0.12711894	1.47	0.142
Very good	0.98888	2.68	0.1216967	8.13	0.000
Excellent	2.955	19.20	0.1288158	22.94	0.000

The results show the significant relationship between marital status and excellent mental health status of the respondents. It is seen that people who were married had excellent mental health compared to that of separated, widowed, divorced and never marry (Table 1). The relationship between the level of education and mental health of the respondents seems to be highly significant. It was found that with an increase in education level associated with an increased in the excellent mental health of the Americans. Americans who are graduated from higher education were 1.79 times more likely to have excellent health compared to those Americans who are below high school. Similarly, those Americans with high school graduate and college graduate were 1.52 times and 1.28 times more likely to have excellent mental health compared to Americans with education below high school respectively (Table 2).

The physical health status of American people was found to be highly significant with the mental health. Americans with excellent physical health were seemed to have excellent mental health compared to poor physical health. Similarly, the alcohol used was to found a negative effect on the excellent mental health of Americans.

DISCUSSION

This study showed that the overall mental health status of the individuals deteriorating with increased in age. There was a significant association between mental health and age. Mental health problem is one of the major concerns of American society and many researchers defined it by interconnecting with an increasing number of seniors in the country. Increasing number of psychological difficulties such as depression, suicide, substance abuse, and anxiety are taken as the results of an increasing number of senior citizen in the USA.²⁸ The youngest age group had the highest proportion (28%) of excellent mental health and oldest age groups have the lowest proportion of excellent mental health condition compared to other age groups 24%. Moreover, the percentage of the excellent mental health observed in single age for both man and women. It was found that the percentage of the excellent mental health condition of male and female was fluctuating at different ages. On an average male had higher excellent mental health compared to that of female, however, there were certain age groups where the female had high excellent mental health. Both man and women reported high excellent mental health condition at the age of 66 to 68. This may be because this is the age where they can retire and they are more likely to feel happy as they don't have to do the same job they are doing their whole life and they can live in retirement benefits. However, this happiness does not seem to long-lasting to male and their mean of excellent mental health decreases at

age around 70. This may be because they feel bored with a lot of free time and misses all social and occupational connection and reputation they make during their working age. This result resembles the study conducted by Horner, E. (2012) where he found that man has good mental well-being in their retirement age but it does not last for long. This is not the same for the female it may be because they have higher connection and family role they can play compared to that of the male.

After controlling for a significant association between mental health and demographic, socioeconomic and health variables in binary logistic regression it was found that youngest and oldest age group people more likely to have excellent mental health compared to middle age groups. Excellent mental health seems to be decreasing in the middle age group and increases in older age group. It was found that youngest age group likely to have 1.19 times excellent mental health compared middle age groups and oldest age group likely to have 1.16 times excellent mental health compared to middle age groups. This may be because middle age group people will be in peak and rush hour of their career role and family role compared to another age group which makes them feel mental stress. Further oldest age group feel happy as they are very close to retirement age and their children are already grown up to take care of themselves. Moreover, senior citizens have more control to their emotion, likable, experienced, generous, and friendly and more coping strategies which help them to come over problem and difficulties in their daily life keeping them mentally feeling excellent. Further this may be because of cohort effects as baby boom generation cohort are quite open to say about their mental health compared to that of another generation cohort this result was similar to that of Dilogerzo (2009); Kim (2009), where they found that mental health was higher in individuals age 65 and older compared to that of younger cohort and not higher than youngest age group. They explain that the mental health of the oldest age group was higher than their younger cohort after controlling for physical health condition.^{22,23}

The results can be explained by the theory of life course perspective. Life course perspective explains the four dimension of age and aging biological dimension, a psychological dimension, social age, and spiritual age.¹⁰ Biological dimension explains about physical health determines the state of health of an individual. This biological dimension was controlled in the study. Other 3 dimensions psychological dimension (refers to skill and ability such as learning, intelligence, motivation, and emotion to cope with the situation), Social age (refers to age norm it is simply an informal expectation or formal rules and laws of society) Spiritual age (morally fulfilling situation) that makes oldest age group feel excellent mental health compared to that of youngest age group. Therefore if the biological dimension of age is controlled then another dimension of age psychological, social age and spiritual age remains the same or slightly higher among the oldest age group compared to that of successive younger cohorts. It can be said that binary logistic regression finds out that after controlling for the significant effects of gender, education, physical health, marital status and drinking habit of the respondents.

Life periods significantly change mental health state of the respondent's mental health deteriorates in the middle age group people and improve back in older age group.

CONCLUSION

Psychological disorder is one of the major public health concerns of American society. The overall mental health status of the individuals declining with increased in age. The study showed a significant association between mental health status and age of American people. For addressing the psychological disorders of the people; there should emphasize the mental health status and developmental stages of the citizens.

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COMPETING INTERESTS

The authors have declared that no competing interests exist.

AUTHORS' CONTRIBUTIONS

Conceived and designed the study: KT and TRB. Wrote manuscript: KT. Commented on the manuscript: TRB.

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