THE IMPACT OF RETIREMENT AND SOCIAL CAPITAL ON MENTAL HEALTH OF ELDERLY INDIVIDUALS IN INDONESIA

By:

EMMANUEL NIZEYUMUKIZA

18731259002

This thesis is submitted in partial fulfilment of the requirements for the attainment of Master's Degree in Psychology

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EMMANUEL NIZEYUMUKIZA

NIM: 18731259002

This thesis is written to fulfill the partial requirements for a master degree in Psychology.

Approved by the supervisor to be submitted for the thesis examination

Supervisor

Yulia Ayriza, M.Si., Ph. D

Head of Psychology

Department

Yulia Ayriza, M.Si., Ph. D

NIP: 19590703 198702 2 003

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RATIFICATION PAGE

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EMMANUEL NIZEYUMUKIZA

NIM: 18731259002

Defended in Front of the Thesis Examiner Team of Graduate School at Yogyakarta State University on 11th May 2020

Yogyakarta,.................

Graduate School

Yogyakarta State University

Prof. Dr. Marsigit, M.A.

NIP: 19570719 198303 1 004

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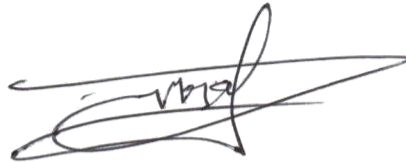
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Name and Surname of Student   : Emmanuel Nizeyumukiza

Student Number   : 18731259002

Program of Study   : Psychology

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Yogyakarta, June, 2020

Emmanuel Nizeyumukiza

NIM: 18731259002

Dedication

This thesis is dedicated to my father Fabien Ndayiragije and my mother Cassilde Ndayishemeza who have unconditionally loved me and have been a source of encouragement and support during the challenging process of my studies. This thesis is also dedicated to my brother and sisters, and to my friends and my whole family whom I am very grateful for having in my life.

Thank you

ABSTRACT

EMMANUEL NIZEYUMUKIZA**:** The Impact of Retirement and Social Capital on Mental Health of Elderly People in Indonesia. **Thesis. Yogyakarta: Graduate School, Yogyakarta State University, 2020.**

  The aim of this study is to reveal whether or not retirement and social capital individually and simultaneously predict mental health of older adults in Indonesia.
This research is an ex-post facto study that used data from the Indonesia Family Life Survey, 5 [th]wave (IFLS5), which took place in late 2014 and early 2015. Using stratified sampling, IFLS5 collected information on 50,148 people from 16,204 households. In this study, the sample was restricted to 5,963 people aged 56 years and above.
  The findings of this study are as follows. (1) Retirement is negatively associated with mental health in old age in Indonesia. That is, those who were retired had increased depressive symptoms compared to those of the same age who kept working. (2) Both cognitive and structural social capitals were positively associated with mental health of old people in Indonesia. That is, those who reported high levels of social capital had decreased depressive symptoms. (2) Simultaneously, retirement and social capital predicted mental health, even after controlling confounding variables. However, structural social capital did not reach statistical significance. This study stipulates that increasing trustworthiness of neighborhoods and facilitating elderly people to participate more in social activities might boost their mental health, especially in retirement life.

Keywords: elderly people, mental health, retirement, social capital

ABSTRAK

EMMANUEL NIZEYUMUKIZA: Dampak Pensiun dan Kapital Sosial pada Kesehatan Mental Individu Lansia di Indonesia. **Tesis. Yogyakarta: Program Pascasarjana, Universitas Negeri Yogyakarta, 2020.**

Penelitian bertujuan untuk mengungkapkan apakah pensiun dan kapital sosial secara terpisah dan secara bersama-sama dapat memprediksi kesehatan mental orang lanjut usia di Indonesia.

Penelitian ini adalah studi *ex-post facto* yang menggunakan data dari Survei Kehidupan Keluarga Indonesia gelombang ke-5 (IFLS5), yang berlangsung pada akhir 2014 dan awal 2015. Dengan menggunakan *stratified sampling*, IFLS5 mengumpulkan informasi dari 50.148 individu dari 16.204 rumah tangga. Sampel penelitian ini terbatas pada 5.963 orang berusia 56 tahun ke atas.

Temuan penelitian ini adalah sebagai berikut. (1) Pensiun berhubungan negatif dengan kesehatan mental di usia tua di Indonesia. Artinya, mereka yang sudah pensiun mengalami peningkatan gejala depresi dibandingkan dengan mereka yang berusia sama yang tetap bekerja. (2) Baik kapital sosial kognitif maupun struktural berhubungan positif dengan kesehatan mental orang tua di Indonesia. Artinya, mereka yang melaporkan kapital sosial tinggi mengalami penurunan gejala depresi. (2) Secara bersama-sama, pensiun dan kapital sosial dapat memprediksi kesehatan mental, bahkan setelah mengendalikan variabel perancu. Namun, kapital sosial struktural tidak mencapai signifikansi statistik. Studi ini mengusulkankan bahwa peningkatan kepercayaan lingkungan dan memfasilitasikan orang tua untuk berpartisipasi lebih sering dalam kegiatan-kegiatan sosial dapat meningkatkan kesehatan mental mereka, terutama dalam kehidupan di masa pensiun.

Kata Kunci: lansia, kapital sosial, kesehatan mental, pensiun

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CHAPTER I

INTRODUCTION

A. **Background of the Study**

The decline in fertility and the enhanced life expectancy have led to an increased ageing population around the world including the ASEAN countries. In 2010 the ageing population in ASEAN region was estimated to be 8.1% of the entire population whereas it is projected to be 17% in 2035 and 24.2% in 2050 (Adioetomo & Mujahid, 2014). Indonesia as fourth populous country will account for a large number with an estimation of 74 million of elderly individuals by 2050 (Kadar, Francis, & Sellick, 2013). Thus, Developing policies and caring for elderly individuals are to be the priority of the government (Kadar et al., 2013) in order to face the challenges especially health challenges met in old age.

World widely there is a recognized relationship between old age and mental health problems. Among mental health problems, depression is leading in later life (World Health Organization, 2016; Chang & Weng, 2013). For instance, 2-4% of geriatric population suffer from mood disorders (Loue & Sajatovic, 2008: 571) and the World Health Organization (2016) reports that 7% of the geriatric population suffer from depression. In fact, depression decreases the ability of functioning at work, in relationships and in other areas of life (Bonelli, Dew, Koenig, Rosmarin, & Vasegh, 2012). In addition, late-life depression worsens the outcome of many physical illnesses and increases disability, and is the main cause of premature mortality (Strakowski &

Nelson, 2015:2). In Indonesia the prevalence of depressive symptoms as suggested by data from Indonesian Family Life Survey, was 7.2% among old individuals (Mahwati, 2017). Determinants of mental health are therefore worth being investigated in depth.

The etiology of mental disorders includes biological, psychological and social determinants. This latter gained much more attention lately in the literature. For example, the World Health Organization (2014:9) states that mental health and many common mental disorders are shaped by social, economic and physical conditions in which people live. In fact, it has been evidenced that social determinants account for a great number of the prevalence and uneven distribution of mental disorders within and between countries (Lund et al., 2010). Empirical studies in the literature have provided convincing evidence including poverty (Tampubolon & Hanandita, 2014), socioeconomic status (Rohde, Tang, Osberg, & Rao, 2016), social capital inequalities (Cao & Rammohan, 2016), unemployment (Chletsos, Mazetas, Kotrotsiou, & Gouva, 2013), retirement transitions (Bertoni & Brunello, 2017), migration (Q. Wu et al., 2018), education (Williams, McGee, Olaman, & Knight, 1997), gender inequality (Cohen, 2017) and some other social factors as determinants of mental health. However, results from Developed Countries as well as from Low- and Middle-Income Countries are somewhat inconsistent on some points.

Studies on the effect of retirement on mental health for example have produced conflicting evidences. For instance, in a nationally representative study in France, Westerlund et al. (2010) observed an important decrease in depressive symptoms following retirement. Some other studies also suggest benefits of retirement on mental

health (Mein, Martikainen, Hemingway, Stansfeld, & Marmo, 2003; Heide, Rijn, Robroek, Burdorf, & Proper, 2013) . In contrast, a set of other studies reported different results. Sahlgren (2012) investigated the health outcomes after retirement using data from eleven European countries. They found a robust negative effect of retirement on mental and physical health. Some few other studies found similar results in western countries (Behncke, 2010; Richardson & Kilty, 1991). Studies from Asian countries tend to reveal negative impact of retirement on mental health. Studies from Japan found that retirees reported increased depressive symptoms than those who kept working (Shiba, Kondo, Kondo, & Kawachi, 2017; Sugihara, Sugisawa, Shibata, & Harada, 2008). A two year follow-up study from Singapore revealed decrease in mental wellbeing among non-volunteering retirees (Chwingel, Niti, Tang, & Ng, 2009). A study from India reported that retired individuals had increased depression and low self-esteem (Veeramuthu & Shanthi, 2017).

In retirement, there are social capital fluctuations. Heinevik, Nilsson, and Ralsmark (2017) found that in retirement, cognitive social capital and structural social capital increased in European countries. Social capital is found to be positively associated with mental health in old age (Ramlagan, Peltzer, & Phaswana-mafuya, 2013; Yiengprugsawan, V. Welsh, J. & Kendig, 2017). Thus, Social capital acts to mitigate the bad experiences found in retirement by providing social cohesion and a sense of utility.

The positive benefits of retirement found in some countries should be found in all countries, because first of all, retirement is a period where individuals should enjoy

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all the activities they could not enjoy once employed. However, studies still find negative impacts of retirement on mental health especially in Low- and Middle-Income Countries. Therefore, there is need for further investigation of the mental health outcomes following retirement among elderly individuals. In addition, retired individuals tend to lose some social ties, therefore, there is need to investigate the impact of social capital on mental health of elderly individuals.

B. Identification of the Problems

Mental health of elderly individuals can be affected by biological, psychological and social factors. Social factors gained much more attention lately in the literature. Thus, the researcher identifies the following problems:

1. The levels of poverty in Indonesia tend to be high, and this may harm mental health of old individuals.

2. Old individuals tend to have low socioeconomic status, and this might be deleterious for mental health.

3. Low social capital in old age may be a deleterious factor of mental health.

4. The unemployment rate tends to be high in Indonesia, and this may be harmful for mental health

5. The number of older adults is high in Indonesia, and there are no suitable retirement programs for all workers.

6. In a developing country, low education may be challenging for mental health in old age.

7. In a developing country, gender inequality might harm mental health in the absence of gender equality policies.

C. Delimitation of the problems

Because elderly individuals tend to be retired and lose some social ties what may lead to a decrease in their mental health, this study is limited to the impact of retirement and social capital on mental health of elderly individuals.

D. Formulation of the Problems

Based on the limitation of the problem mentioned above, the problem is formulated as follows:

1. What is the impact of retirement and social capital on mental health of elderly individuals in Indonesia?

2. What is the impact of retirement on mental health of elderly individuals in Indonesia?

3. What is the impact of social capital on mental health of elderly individuals in Indonesia?

E. Objectives of the Study

Based on the formulation of the problem mentioned above, this study aims to investigate:

1. The impact of retirement and social capital on mental health of elderly individuals in Indonesia

2. The impact of retirement on mental health of elderly individuals in Indonesia.

3. The impact of social capital on mental health of elderly individuals in Indonesia.

F. Advantages of the Study

This study will be beneficial for policy makers in the field of geriatrics, social welfare and mental health. Moreover, this study will enhance the empirical knowledge about mental health of old individuals and its association with retirement and social capital in Indonesia and can serve as reference for future researches.

CHAPTER II

LITERATURE REVIEW

A. Theoretical Review

In this section, we will provide theoretical framework as well as empirical evidence on retirement, social capital and mental health of elderly individuals.

1. Mental Health of Elderly Individuals

a. Definitions

The presence of mental health doesn't have any standards for diagnose, measurement or studying. However, by default, science portrays mental health as the absence of psychopathology (Keyes, 2005). This view has been prevalent in the clinical perspective until the emergence of positive psychology whose scientists viewed mental health as something more positive. Subsequently, there have been new conceptualizations of mental health in the literature.

World Health Organization (2014 : 12) defines mental health as the condition of well-being in which individuals can grow their potentials, can normally cope against life stressors, and can realize fruitful productivity at work in order to contribute to their community. Three components can emerge from this definition: wellbeing, individual life effective functioning and effective functioning contributing to the community life.

Galderisi, Heinz, Kastrup, Beezhold, and Sartorius (2015) argue that the definitions provided in the literature are not free of cultural biases. Thus, he conceptualized mental health as a dynamic state of internal equilibrium which empowers individuals to harmonize their abilities with universal societal values, allows them to recognize and regulate their own emotions as well as empathize with others and allows them to cope with adversity. This definition includes the following key components: internal equilibrium, harmony with societal values, emotion regulation and resilience.

In this framework, we will use absence of psychopathology as aspect of mental health for two reasons. First, individuals suffering from symptoms of mental illness are likely to have low overall wellbeing. Second, it is globally recognized that in old age, there is tendency to experience depression (Chang & Weng, 2013).

b. Factors that Influence Mental Health

Mental health is determined by biological, psychological and social factors. Biological factors refer to the genetic inheritance and the biochemical changes in the organism. These factors of mental health were studied since the emergence of neuroscience (Freitas-silva, 2016). Neuroscience provided biological determinants of mental health with brain physiology and genetic inheritance as core components. Those biological determinants include unbalance of chemicals in the organism, injury or brain deficit, infection,

toxins. However, these biological factors are highly influenced by environmental factors.

The psychological factors refer to individual characteristics leading to differences in ability to cope with adversity. Psychological factors of mental health are both individual attributes and external stimuli that can have a positive or a negative impact on individual's mental health. These individual attributes include self-esteem, resilience, ability to cope with stressors and some other. External stimuli include neglect, family separation, and death of beloved ones, war, and emotional, physical or sexual abuse (Van der Kolk, 2010).

Social factors refer to social and environmental conditions in which people live which influence their mental wellbeing. Social determinants of mental health got a little bit more attention in the social sciences. Social scientists view social inequality as the main cause for mental health problems (Allen, Balfour, Bell, & Marmot, 2014). These social factors are conditions in which people are born, live, work and die. They include neighborhood livability, health systems, social capital, poverty, unemployment, retirement systems, etc.

In this framework, the factors of interest are retirement and social capital as old individuals tend to be retired and tend to withdraw from social life.

c. Dimensions of Mental Health

Dimensions of mental health are drawn from the different conceptualizations of mental health above. In fact, mental health is conceptualized as a state of wellbeing and absence of psychopathology. Consequently, most population surveys include life satisfaction, happiness, absence of anxiety and absence of depression as dimensions through which mental health is measured.

Headey, Kelley, and Wearing (1993)investigated which dimensions of mental health are suitable for inclusion in surveys. They intended to measure with the convergent validity and the divergent validity of all the suggested dimensions; life satisfaction, happiness, absence of anxiety, depression, negative and positive affect and psychological distress. The exploratory and confirmatory factor analysis indicated life satisfaction, happiness, absence anxiety and absence of depression as suitable dimensions of mental health. Life satisfaction and depression were highly negatively correlated, this means that it practically impossible to be depressed and happy or satisfaction with life. Heady (1993) suggest that all those dimensions need to be measured separately.

Therefore, since life satisfaction, a measure of wellbeing and depression, a measure of psychopathology are negatively highly correlated (Headey et al., 1993; Guney, Kalafat, & Boysan, 2010), measuring one could indicate an estimate of the other, for example an individual scoring high on

depression scale would score low on a life satisfaction scale. Moreover, given that the leading disturbance of mental wellbeing in old age is depression (Chang & Weng, 2013), this study uses absence of depression as an indicator of mental health of elderly individuals.

d. Depression in Old Age

Depression is a mood disorder that affects individuals' capacity to think, reduces their motivation to act, brings mental pain and feelings of helplessness (Segal, Williams, & Teasdale, 2013 : 11). Depression is a major problem in old age as it is often under reported. In fact, it is taken for normal ageing process due to the comorbidity with a range of physical illnesses observed in later life (Mitchell & Vaze, 2010). The symptoms of depression in old age include a great loss of interest in life, loss of interest in enjoyable activities, loss of memory, thoughts of death, unexplained pain, sleep disturbance, poor concentration. Primary health care practitioners often attribute these symptoms to old age and depression goes undertreated (Rodda, Walker, & Carter, 2011).

Depressive symptoms in old age may be underdiagnosed by professionals as they are often taken for normal ageing processes (Mui&Yang,2005). In fact depression in old age is often accompanied by peripheral body changes and cognitive impairment (Alexopoulos, 2005), including attention, psychomotor speed and memory (McIntyre, Cha, &

Soczynska, 2014 : 9). Old people themselves minimize depressive symptoms (Mui&Yang,2005) which results in an increased number of elderly individuals living with undiagnosed depression. Depression not only causes personal suffering and family disruption but also worsens a wide range of other diseases (Blazer, Burchett, Service, & George, 1991). Alexopoulos, Kasper, Möller, and Moreno (2014 : 43) State that chronic stress caused by financial difficulties, disability and isolation increases depression in old age.

Depression has a deleterious effect on individuals' physical health and on their recovery from diseases in later life. For instance, in a longitudinal study Cronin-Stubbs et al. (2000) investigated the effect of depressive symptoms on the course of physical disability. They followed a sample of 3434 elderly individuals and found that depression increased the probability of being disabled and decreased the probability of recovering from illnesses. Similar results were obtained in another longitudinal study by (Armenian, Pratt, Gallo, & Eaton, 1998) that examined whether depression was associated with physical disability in a big sample of old persons. The results revealed that depression predicted disability of activities of daily living. In the other side it is physical disability that was found to lead to depression due to the burden of chronic illnesses (Blazer et al., 1991). Associations of depression and chronic conditions and disability were also revealed by Peltzer & Phaswana-Mafuya (2013) in their study in a sample of South-Africans. These

findings suggest a kind of causal relationship between depression and physical disability.

Depressive symptoms are associated with the prevalence of suicide attempts in old age. Suresh Kumar, Anish, and George (2015) investigated risk factors associated with suicide attempts. 1159 Indian suicide attempters participated to the study. They found that depression was an important risk factor of suicide. The same findings were obtained by Snowdon (2001) in their review of studies on old people who committed suicide. They reported that in most cases the individuals had prevalence of depressive symptoms. Psychological autopsy studies also found that major depression was the main risk factor of suicide in old age (Conwell, Van Orden, & Caine, 2011) and they suggest that early detection and treatment of depression are of capital importance in order to reduce suicide rates in late life.

Therefore, the absence of depression can be a good measure of mental health in late life. Many other studies have used the absence of depression to measure mental health (Sujarwoto, Tampubolon, & Pierewan, 2019, Tampubolon & Hanandita, 2014; Das, Do, Friedman, Mckenzie, & Scott, 2007; Qiaobing Wu, Lu, & Kang, 2014) .

2. Retirement

The old age is seen as the transition from work to retirement (Levsen, 2015 : 41). Therefore, retirement can be defined as a withdrawal of older individuals

from their position or their active working life (Mukku, Harbishettar, & Sivakumar, 2018). This transition has powerful effect on the ageing process. Not all individuals will experience this transition in same way (Chung, 2017). Some elderly individuals view retirement as a period to travel, to enjoy life with their families, to chase their hobbies while others may see it as a time to engage in in community activities such as volunteering or finding a job (Gatta, 2019 : 82). However, old individuals who didn't set specifically their activities following retirement are more likely to experience depression (Butrica & Schaner, 2005). There is a set of theories that attempt to explain the retirement process.

a. Disengagement Theory

The disengagement theory was postulated by Cumming & Henry (1961: 227) and states that leaving one's central role in society leads to crisis. For instance, individuals who construct their self-esteem on the role they play in the society may find themselves depressed once retired. Therefore, the loss of work, social ties and networks associated with retirement accelerate the decline on mental health seen in old age. However, this theory has been criticized for not being falsifiable.

This theory states that disengagement is initiated by individuals themselves when they want some changes in their life or by societal rules with mandatory age for retirement for example. Moreover This theory admits that disengagement is universal, that all individuals in all the societies experience

it; inevitable, that every individual experience it soon or later in his life; intrinsic, that it's within individuals not only determined by social factors (Hochschild, 1975). But we can argue that all those who disengage do not assume further social roles. This is the case of developing countries for example where retirees may have to work part-time to support their families or where a number of farmers continue to work until very old age where they can no longer do so.

In this theory of disengagement, Cumming & Henry (1961: 227) assumed that all individual were ready to disengage as mentioned before that it was an intrinsic phenomenon. Prasad (1962) investigated this issue to address its empirical foundation. To do so, he designed a study in which 900 retirees men participated. Respondents were asked whether they were retiring voluntarily. They found that around one third of respondents retired under normal retirement, another one third retired under obligatory retirement and the other part of respondents retired because of health and personal issues. This study failed to provide any empirical evidence of the readiness to disengage or to retire, however the sample was taken only from former industrial workers.

b. Retirement as a Stressful Event

This theory stresses more on the loss of employment than the transition to retirement. In fact, it postulates that leaving profitable employment

implicates losing income, social identity. These changes are paired with stress and are more likely to increase illness (Minkler, 2015). Following this perspective, one can state that transition to retirement is predictive of decline in mental health.

Is retirement stressful as a transitional event or as a life stage? This is the question investigated by Bosse, Aldwin, Levenson, and Workman-daniels (1991) who conducted a study to evaluate how retirees found retirement stressful. A sample of 1516 respondents participated in the study 45% of which were retired. Respondents were asked to rate 31 events from not at all stressful to extremely stressful. The results revealed that around a third of retirees have experienced retirement problems and found retirement stressful both as transition event or as life stage. More specifically, retirement was more stressful for those who retired because of health conditions or obliged to retire and for those who experienced financial problems.

One of the main stressful facts of retirement is loneliness, a feeling of emptiness and abandonment which may lead to mental disorders. Castel (2019:100) posited that loneliness is a silent killer. A descriptive comparative study was designed by Bekhet and Zauszniewski (2012) to examine gender differences and associations among loneliness and indicators of physical and mental health among old adults in Northeast Ohio. The analysis of variance (ANOVA) was used to examine the relationship between loneliness and mental health and between loneliness and overall health separately. The

results show that there was no difference in overall health and in indicators of physical health among those who reported loneliness and those who reported no loneliness. However, when it comes to mental health, there were significant differences between its indicators among lonely elders and not lonely elders. Elders who reported feelings of loneliness had higher scores of anxiety and depression than those who did not. The study suggests that interventions aimed to reduce loneliness could be beneficial for preventing mental illness in old adults.

c. Phases of Retirement According to Atchley (1976)

The most influential theory is attributed to Atchley (1976: 21) who proposed that retirement should not be seen as a single event, however a process which is even planned many years before. From this view, retirement is a process of social change and psychological adaptation and adjustment which Atchley believes goes through several stages.

After many years of research, Atchley (1976: 64-76) developed a framework in which he describes the phases of retirement, starting from the period before retirement to the period of adjustment after retirement.- Those stages consist of remote stage, near phase of preretirement, honeymoon phase, disenchantment phase, reorientation phase, stability phase and termination phase.

The remote phase begins long time before retirement, when individuals think of retirement as a distant event. The near phase begins when old workers gets aware of the approaching retirement period. This phase is characterized by negative thoughts about retirement associated with the fear of the coming reality. In this period preretirees make assumptions and plan after retirement. The honeymoon phase begins just after retirement and is characterized by euphoric periods where new retirees enjoy their time, regain the freedom employment took from them, spend time with their family and grandchildren and enjoy the hobbies they could not enjoy while employed. The fourth phase is called disenchantment because the retirees meet the challenges of retirement reality which may be different of what they have expected in the near phase. In this period retirees have difficulty adjusting to the new life. The next phase is reorientation when retirees get up from disenchantment and find some new roles and source of meaning. The sixth phase is stability when retirees after getting adjusted to new social roles at the reorientation phase, gain a new meaningful and satisfying life. The last phase is labeled termination phase when retirees are not able to assume the roles because of sickness and disability. However, retirement is a subjective experience and not all individuals experience it the same way, consequently these phases may not be valid for every retiree.

This framework received attention in the literature and some studies attempted to provide its empirical foundation. The cross-sectional study by

Ekerdt, Bosse, and Levkoff (1985) is one of the first attempts to address this issue. They studied a group of retiree men and compared those who recently retired with those who retired a year ago or above. The results revealed that those who retired a year reported lower life satisfaction which corresponds to the disenchantment phase. Reitzes and Mutran (2004) found similar results following respondents before retirement until 2 years after retirement. They found that 6 months after retirement there was an increase in positive attitudes of retirement followed by a decline at 12 months after retirement. These results correspond to the honeymoon followed by the disenchantment phase. The results showed also that respondents regained positive attitudes towards retirement after 2 years what corresponds to the phase of reorientation proposed in the framework.

The theories above show that retirement can be a stressful transition of life. However, if one gets adjusted to it, it can turn out to be enjoyable.

d. The Case of elderly in Indonesia

Indonesia is currently experiencing non negligible demographic changes due to decreased fertility and mortality (Cheng, Chi, Fung, Li, & Woo, 2015 : 26). Subsequently there is a prevalent old generation coming in the Indonesian population. For instance, in 2015 there were 21 million of elderly individuals over 60 and this number is projected to be 62million in 2050 (Biswas, 2018). This implicate that by the year 2050, there will be 62

million of retirees in Indonesia. The mandatory age for retirement in Indonesia was 56 until 2019 when it was increased to 57 and will continue to be increased every 3 years by 1 year until it reaches 65 (International Labour Organization, 2017).

The Government of Republic of Indonesia has made efforts to improve social security systems. In 2015 for instance, the social security was reformed by replacing the former system by a new one, the *BPJS Ketenagakerjaan* (International Labour Organization, 2017). This new system covers employment related accidents, pension, provident fund, death as well as health benefits. The health care system is carried out by BPJS Healthcare and covers a number of diseases ranging from simple flu to cancer or heart operations and all Indonesians shall benefit this healthcare by 2019 (BIPO, 2011).

This shows that Indonesia is aware of the coming increasing number of old individuals and tried to cover health systems and pension with new reforms. Thus, scholars should pay more attention on what can make life better in old age.

3. **Social Capital**

   a. **Definitions**

   There is no single universal definition of social capital (Kawachi , Takao &Subramanian, 2013). Coleman (1988) defines social capital as a variety of distinctive entities that have some features in common: they are all

embedded in social structures and they facilitate interactions between individuals within that social structure.

Bourdieu and Wacquant (1992:32) define social capital as the sum of actual and virtual resources that accumulate within an individual or in a group of individuals by constructing durable networks and reciprocal relationships.

Putnam (1995) states that social capital is the "value" of social relationships, characteristics of social organization like networks, norms, and social trust that facilitate coordination and cooperation for reciprocal benefit.

All these social scientists agree that social capital is derived from social networks and is beneficial to individuals (Dumbach, 2014:34). Therefore, in this framework, social capital is defined as norms of reciprocal trust and participation in social networks.

b. Factors that Influence Social Capital

Social capital can be influenced by a range of socio-demographic and contextual factors. In fact, it has been evidenced that income, education, gender, marital status, age, having children, employment status and religiosity has an influence on social capital of individuals.

Being educated and having high income was found to positively correlate with measures of social capital. Knack and Keefer (1997) investigated the links between income and social capital. They found that income and education levels correlated with interpersonal trust and

participation. Age was also found to have an effect on social capital. For example, Glaeser, Laibson, and Sacerdote (2002) found that social networks decrease with age however, Christoforou, (2005) found that in Europe young and old people who were not working were more likely to belong in groups.

When it comes to gender, women were found to participate less in formal networks and are more likely to participate in informal networks, like family-based social capital (Christoforou, 2005). While Bolin, Lindgren, Lingstrom, and Nystedt (2003) found that marriage decreases social capital by delimiting time to go out for socialization, Christoforou (2005) found that married individuals were likely to be members of groups. Unemployed individuals are less likely to participate in community networks, probably because they tend to develop distrustful sentiments towards society (Christoforou, 2005). Another factor found to have an effect on social capital is religiosity. Religiosity facilitates and creates formal and informal networks among people, create trust and trustful relationships (Whiteley, 2000; Knack & Keefer, 1997).

c. Components of Social Capital

Social capital consists of 2 components: cognitive and structural (Patel et al., 2018). The cognitive component refers to the perceptions of the quality of social relationships such as trust, social cohesion, and neighborhood satisfaction. Trust and social participation are interconnected however, some

scholars (Kim, Subramanian, & Kawachi, 2008; Tampubolon & Hanandita 2014) suggest that the relationship between mental health and trust is more significant than the one with social participation. Trust is a psychological state where one accepts to be vulnerable based on positive expectations towards intentions or behaviors of another (Rousseau, Sitkin, & Burt, 1998). Trust is therefore a shared reciprocity on a given intention between two or more individuals or institutions and Putnam (1993:177) states that trust facilitate cooperation and coordination. Thus, trust has implications not only on individuals but also for social cohesion (Gheorghui, Vignoles, & Smith, 2009). The literature differentiates between general trust and narrow trust; trust in neighbors, in the police, in institutions, in workplace, etc.

The structural component denotes the quantity of social participation. There is no common definition attributed to social participation in the literature. Some studies defined it as social networks, social support, social activities, participation in formal and informal networks (Mendes de Leon, 2005) and civic engagement (Wray-lake et al., 2017). Hence, it is legitimate to define social participation as any engagement in community activities. Previous studies found that social participation was beneficial for retirement satisfaction (Nizeyumukiza, Pierewan, Ndayambaje, & Ayriza, 2020).

In this framework, the components of interest are trust (cognitive social capital) and participation in community activities (structural social capital).

d. Types of Social Capital

Social capital is thought to be of 3 different types: bonding, bridging and linking social capital (Cook, Halsall, & Wankhade, 2015 : 49). This differentiation is based on the homogeneity of individuals interconnected into social networks according to individual social identity and position (Johnson, Rostila, Svensson, & Engström, 2017).

Bonding social capital can be defined as the strong links between people who share similar characteristics of social identity such as family and friends (Bain & Hicks, 1998). Bonding occurs when you are socializing with people who are like you; same age, same race, same religion (Ruan, 2017 : 65). Bonding social capital exists between individuals who frequently interact with trusting and cooperative relations between them (Szreter & Woolcock, 2004). Bonding social capital was found to benefit mental health by providing to individuals sense of belongingness, security and stability (Johnson et al., 2017). Bonding social capital is thought to provide intensified exchanging of social support (Kotarski, 2015 : 99). However social pressures from friends and family may make bonding social capital not always beneficial to mental well-being. For example a study by Mitchell and LaGory (2002) found a positive relationship between aspects of bonding social capital and mental distress in a disadvantaged community in Alabama. The same results were found by Gilbert et al. (2013)

Bridging social capital refers to the social ties between people of heterogeneous groups usually different in socio-demographic characteristics (Lofors & Sundquist, 2007). Bridging social capital is negatively related to mental disorders. For example Stafford, De Silva, Stansfeld, and Marmot (2008) investigated the relationship between social capital and common mental disorders in a big sample of England and Scotland. They found that aspects of bridging social capital were inversely related to common mental disorders. The findings suggested also a positive relationship between bonding social capital and common mental disorders which corroborate the findings of Mitchell and LaGory (2002).

Linking social capital refers to the respectful and trusting connections between people and formal institutions and authority. Linking social capital can be measured by the amount of people in a neighborhood voting in political actions or social trust in institutions (Szreter & Woolcock, 2004). Some studies found a positive association between linking social capital and measures of health (Ahnquist, Wamala, & Lindstrom, 2012, Lofors & Sundquist, 2007). Linking social capital is also associated with levels of depression in communities. A cohort study by Lofors & Sundquist, (2007) found that a decreased linking social capital predicted increased scores of depression in both men and women. However, some scholars state that linking social capital may bring clientelism networks which may lead to corruption (Pisani, Franceschetti, Secco, & Christoforou, 2017:46).

There is a positive association of neighborhood social capital and mental health. Tampubolon, Subramanian, and Kawachi (2011) investigated the effects of neighborhood social capital on individual health. The results evidenced that residing in a trusting neighborhood was associated with better self-rated health. Islam and Alam (2017) examined the relationship between social capital and mental health in a sample aged over 60. They found that individuals who had low neighborhood social capital reported poor mental health. Social participation was no longer significant in old age.

Thus, Social capital can mitigate the negative experiences met by old individuals following retirement.

B. Relevant Studies

Here are presented some relevant studies and their similarity and difference with this research:

Westerlund et al. (2010) investigated the effect of retirement on chronic conditions in France. Their findings revealed that depressive symptoms decreased after retirement. The similarity with this research is the measure used for depression. Both researches use Center for Epidemiologic Studies Depression Scale (CES-D). There are two main differences with this research. First, their research was a longitudinal study whereas this research is ex-post-factor. Second, their research was conducted in France, a developed country whereas this research is conducted in Indonesia, a developing country.

Another relevant study is the one of Veeramuthu and Shanthi (2017). They examined the effect of retirement on mental health in India. They found that retired individuals had higher levels of depression and poor psychological adjustment compared to old individuals who were still working. The similarity with this research is the purpose of study. Both research aimed to investigate the effect retirement on mental health. Moreover, both research are conducted in developing countries who share some characteristics. The difference resides in the measures used. They used Ambulatory Geriatric Care scale whereas this research uses CES-D to measure depression.

Another relevant study with this research comes from Japan. Shiba, Kondo, Kondo, and Kawachi (2017) used data from a sample of a community-dwelling old Japanese to investigate the effect of retirement on mental health. The results revealed that individuals who transitioned to retirement reported increased depressive symptoms compared to those who kept working. Similarity with this research is that both research share the same purpose. The difference is that their research is a longitudinal study whereas this research is ex-post-facto.

Some relevant studies on the relationship between social capital and mental health got our attention as well. One of them is the study of Yiengprugsawan, Welsh and Kendig (2017) who investigated the associations between social capital and health in old age in Australia. Their findings evidenced that low trust was associated with poor mental health. The similarity with this research is that both studies investigate the effect of social capital on mental health in old age. The difference is that their study is

conducted in a developed country and is longitudinal whereas this study is conducted in a developing country.

Another study that got our attention comes from Africa. Ramlagan, Peltzer, and Phaswana-mafuya (2013) investigated the relationship between social capital and several health outcomes in old age using data from Global Ageing and Adults Health in South Africa. Their main findings revealed that low social capital was associated with increased depressive symptoms. The similarity with this research is that both investigate the same issue and are conducted in developing countries. The difference is that they used a single item to measure depression whereas this study uses CES-D.

In a systematic review on quantitative studies on the association of social capital and mental illness, Ehsan and De Silva (2015) used twenty electronic databases and the reference sections of papers to search published studies on the issue. Twenty-one studies were included in the review. Fourteen of the studies examined social capital at the cognitive level and reported that high scores of cognitive social capital were associated with low rates of common mental disorders. They found also an inverse relation between cognitive social capital and child mental illness, and combined measures of social capital and common mental disorders. Seven studies examined social capital at the structural level and were inconsistent in methodology used, population and mental illness outcomes what made difficult for the authors to draw conclusions on the structural level of social capital. The similarity with this research is that both study the relationship between social capital and mental health. The difference

is that their study is a meta-analysis of several studies whereas this study is ex-post-facto.

Johnson et al. (2017) designed a cross-sectional study to investigate the impact of social capital on mental health of refugees in Sweden. The study used a baseline data from the Stockholm Public Health Cohort that included 50,498 individuals. They used the 12-item General Health Questionnaire to measure mental health as psychological distress, and social capital was measured at both cognitive and structural dimensions, and the indicators of bonding, bridging, and linking social capital were measured. Using logistic regression, their findings revealed that bonding social capital showed the greatest mediatory role among the three social capital types on mental health of refugees, they conclude that social capital is an important post-migration factor that explains differences in mental health for some immigrant groups. They recommend that an increased investment from policy-makers regarding social capital for refugees can reduce their psychological distress. The similarity resides in the purpose of the study. They both investigate the link between social capital and mental health. The difference resides in the sample. They studied refugees while this research studies old individuals.

Studies in LMIC also find a positive relationship between social capital and mental health. For example Miller, Scheffler, Lam, Rosenberg, and Rupp (2006) empirically examined the relationship between social capital and health in Indonesia. The aim of the study was to investigate the role of community social capital in the individual's health focusing on both physical and mental health. Their data were from

the Indonesian Family Life Surveys of 1993 and 1997 with more than ten thousand adults studied. The findings of the study revealed a strong positive association between social capital and good health. The similarity with this research is that both studies are conducted in Indonesia. The difference resides in the sample used. They used a sample of Indonesian adults whereas this research uses a sample of Indonesian old individuals.

Social engagement, a construct similar to dimensions of social capital seems to have a good effect in old age. Utomo, Mcdonald, Utomo, Cahyadi, and Sparrow (2018) conducted a study to investigate the role of social engagement in the life of elderly individuals in rural areas of Indonesia. Whereas in west countries social engagement may be indicated by leisure activities, this study found that in rural Indonesia, social engagement was through income-generating activities and family role activities. Male elders were likely to engage in income-generating activities and female were more likely to engage in family roles. Apart from disable individuals, old people were participating in this work or that to contribute to community and family functioning. The similarity with this research is that both studies take place in Indonesia and use a sample of old individuals. The difference is that they studied only one dimension of social capital whereas this research will study all the two dimensions of social capital.

Butterworth, Gill, Rodgers, Anstey, Villamil, and Melzer (2006) investigated the relationship between retirement and mental health across older adulthood considering age and known risk factors for mental disorders. The data were taken from the 1997 National Survey of Mental Health and Well-being which is a cross-sectional survey of more than ten thousand Australian adults. The survey gives national estimates

for the prevalence of common mental disorders, levels of disability, and the health service usage. The findings indicate that the prevalence of common mental disorders diminished across increasing age groups of men and women. Retirees aged 55-74 reported significantly lower rates of mental disorders than those aged 45–49. Compared to individuals in old age, men still in labor force age were likely to have a common mental disorder. Individuals with poor physical health were also more likely to have a diagnosable mental disorder. Among men, the relationship between retirement and mental health varied according to age. The similarity with this study is that both studies are nationally representative and investigate the relationship between retirement and mental health. The difference resides in that their research is conducted in a developed country whereas this research is conducted in a developing country.

Retirement have an impact not only on the retiree's mental health and wellbeing, but also on their partners in life. Bertoni and Brunello, (2017) studied the effect of the husband's retirement on the wife's mental health in Japan. Using Japanese micro-data, the authors studied what they called the "Retired Husband Syndrome" that may affect mental health of wives of retired men. The study found that the retirement of husbands has a causal effect on wives "Retired Husband Syndrome" symptoms. It increases their stress, depression and sleep disorder. Furthermore, the findings revealed a negative impact of retirement on husbands own mental health and on household socioeconomic situation. The similarity is that both studies investigate the effect of retirement on mental health. The difference is that their research investigates the effect

of retirement on retirees' wives whereas this research investigates the effect of retirement on mental health of old individuals.

C. Conceptual Framework

The number of elderly individuals is increasing rapidly in Indonesia. Even the government recently reformed the social security system including pension systems to meet these demographic changes. An increased number of elderly individuals implicates an increased number of people who retire from occupations. Retiring implicates leaving the workplace and people with whom one has been working with for years, losing the social, emotional and financial support from workplace. Retiring implicates also having plenty of time where one can enjoy the activities he could not enjoy once in labor force. Retiring can also implicate having time to spend with family especially with grandchildren. Therefore, retirement can be a stressful event but can also have positive outcomes for mental health depending on how people adjust to this life transition.

In developed countries, empirical studies find a positive effect of retirement on mental health whereas in developing countries the effect is found to be negative. This difference may reside in that after retirement, people in developed countries tend to enjoy leisure activities while people in developing countries tend to find another job in order to support financially their families. Anyway, participating in leisure activities or in profitable activities, one of social capital indicators, was found to be a positive thing for mental health in old age. Participating in those activities may enable old individuals

to create more social ties and relationships bringing by there more social support and some material benefits, and to have a sense of accomplishment. Thus, trust, norms of reciprocity and community participation which constitutes social capital can act to buffer the negative experiences of old age and improve mental health of old individuals. This diagram below shows visually our theoretical framework of thinking.
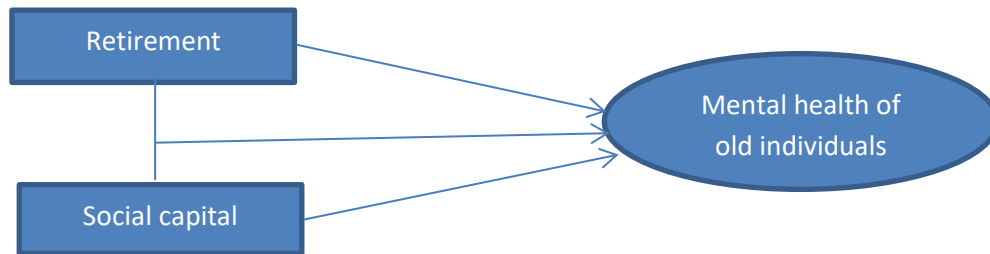
D. Hypothesis

Based on the formulation of the problems and on the conceptual framework, the researcher came out with the following hypothesis:

1. There is an impact of retirement and social capital on mental health of elderly individuals in Indonesia.

2. There is a negative impact of retirement on mental health of elderly individuals in Indonesia.

3. There is a positive impact of social capital on mental health of elderly individuals in Indonesia.

CHAPTER III

RESEARCH METHODS

A. Type of Research

This is an ex-post-facto research and based on the aim of the research that is to investigate the impact of retirement and social capital on mental health of elderly Indonesians, quantitative approach is used. This approach allows to analyze statistically the data and then draw conclusions based on the hypothesis.

B. Place and Time of Research

This study uses secondary data taken in 2014-2015 from 13 provinces of Indonesia: North Sumatra, Yogyakarta, West Sumatra, East Java, South Sumatra, Bali, Lampung, West Nusa Tenggara, Jakarta, South Kalimantan, West Java, and South Sulawesi.

C. Population and Sample of the Research

The data are from Indonesian Family Life Survey (IFLS), the 5th wave which took place in the late 2014 and early 2015. IFLS is a longitudinal socioeconomic and health survey representing around 83% of the entire Indonesian population (Strauss, Witoelar & Sikoki 2016). IFLS5 collected information on 16,204 households and 50,148 individuals living in 13 provinces of Indonesia (Strauss, 2016). This research uses a sample of individuals of 56 years old and over, the mandatory age for retirement in 2014. This yields a sample of 5,963 elders.

D. Variables of the Research

The variables studied in this research are: retirement, social capital and mental health. Retirement is a categorical variable; this means the old individuals studied are either retired or not yet retired. Social capital is a continuous variable made of measures of trust and measures of social participation. Mental health is operationalized as the absence of depression and is a continuous variable.

E. Techniques and Data Collection Instrument

The data were collected with self-reported questionnaires and interviews (Strauss et al., 2016) . For depression, the questionnaire used by the IFLS5 is the Center for Epidemiologic Studies Depression Scale (CES-D) short version (Andresen, Malmgren, Carter, & Patrick, 1994). This is a self-report measure of depression containing 10 items. The results of the study by Mackinnon, Mccallum, Andrews and Anderson (1998) confirmed that the responses on CES-D are comparable across cultures including Indonesia. Internal consistency for the CES-D-10 = (Cronbach's α=0.86), Test-retest reliability for the CES-D-10 = (I CC=0.85), Convergent validity = .91, Divergent validity = .89 (Miller, Anton & Townson, 2008).

For retirement, IFLS5 asked the following question: do you consider yourself: retired, partly retired or not yet retired. In this study, the possible answers are dichotomized to be retired and not retired (still working).

For social capital, IFLS5 used measure of trust and social participation. For cognitive social capital, respondents were asked the following question: say you lost

your wallet or a pursue that contained Rp 200.000 and your identity card, think about how is it likely to be returned with the money if it was found by someone who lives close to you (Strauss et al., 2016). The answers are of ordinal nature and were coded 1 for very unlikely, 2 somewhat unlikely, 3 for somewhat likely and 4 for very likely. The structural social capital was measured by community participation. Respondents were asked if they participated in the following community activities in the past 12 months: community meeting, cooperatives, voluntary labor, program to improve the neighborhood and religious activities (Strauss et al., 2016). The answers were then aggregated into one score, making a range of 0-5. High values indicated high community participation.

This operationalization of social capital coincides with the conceptualization of social capital of Putnam (1995) as norms of trust and social networks.

F. Data analysis techniques

Because the data provided by IFLS are raw data, R statistical software is used to process, manage, organize and analyze the data. R is an integrated software equipped with packages that allow diverse data handling and manipulation, calculation and graphic displays (Fox & Leanage, 2016). Linear regressions are performed to address the relationship between the variables of interest.

CHAPTER IV

RESEARCH FINDINGS AND DISCUSSION

A. Research findings

1. Description of the research subjects

The sample of this study is composed of elderly individuals aged between 57 and 90 years of age. The age 57 corresponds to the mandatory age for retirement in Indonesia in 2014. The sample size is 5,963 elderly individuals from 13 provinces of Indonesia. 47.8 % of the subjects are males while 52.2 % are females. In this study, secondary data were used, therefore, no permission were required.

2. Descriptive statistics

Following are descriptive statistics of the sample. They include maximum value, minimum value, mean value, standard deviation, frequency and percentage.

a. Mental health

Mental health was measured by absence of depression. Depression was measured by Center for Epidemiologic Studies Depression Scale (CES-D) short version. This is a self-report measure of depression containing 10 items. The minimum value min = 0, max = 30, mean = 5.64, SD = 4.65. The scores of CES-D short version are classified as follows: 0 to 9 indicates mild level of depression, 10 to 14 moderate level of depression and over 15 severe depression

(Andresen et al., 1994). The results of frequency based on the levels of depression from the sample are summarized in Table 1.

Table 1. Distribution frequency of depression

No	Interval	Category	Frequency	Percentage
1.	0 – 9	Mild	4,927	83.5
2.	10 – 14	Moderate	678	11.5
3.	>15	Severe	290	5
Total			5,963	100

The Table1 shows that the highest frequency (4,927 respondents) is located on the interval 0 – 9 which corresponds to the mild level of depression. In other words, 4,927 respondents (83.5%) reported that they have mild levels of depression. The lowest frequency (290 respondents) is located on the interval >15 which corresponds to severe level of depression. This means 290 respondents (5%) reported that they have severe depression while 678 respondents (11.5%) reported that they have moderate levels of depression. These results are displayed in the plot below:

Figure1. Depression distribution

Depression Distribution

This plot shows that most of respondents experienced mild depression. This is understandable as the sample was taken from the general population, not from a depressive population.

b. Social capital

The social capital variable is composed of cognitive social capital and structural social capital. Cognitive social capital is measured by social trust while structural capital is measured by social participation.

1. Social trust

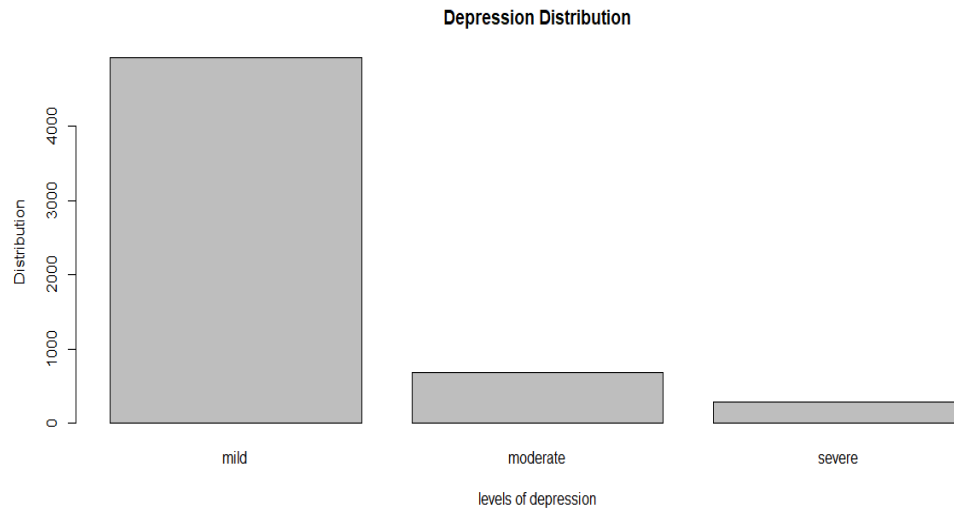The descriptive statistics for social trust are as follows: min = 1, max = 4, mean = 2.88, SD = 1.18. The results of frequency based on the levels of social trust from the sample are summarized in Table 1.

Table 2. Distribution frequency of social trust

No	Score	Category	Frequency	Percentage
1.	1-2	Low	1995	33.5
2.	3-4	High	3968	66.5
Total			5,963	100

The results from the Table 2 shows that the highest frequency (3968 respondents) resides on the frequency 3-4. This means that most of respondents (66.5%) reported that it is likely for their wallet to be returned back with all the money after it was found by their neighbors. Which means they trust their neighbors and more specifically this can mean that their neighbors are trustworthy. However, a non-negligible number of respondents (1995 respondents) reported that it is unlikely for their wallet to be returned with the money. This means they don't trust their neighbors. These results are displayed in the Figure 2.

Figure 2. Social trust distribution

Distribution of social trust

The Figure 2 shows that people who reported high social capital are two times higher in number than those who reported low social trust.
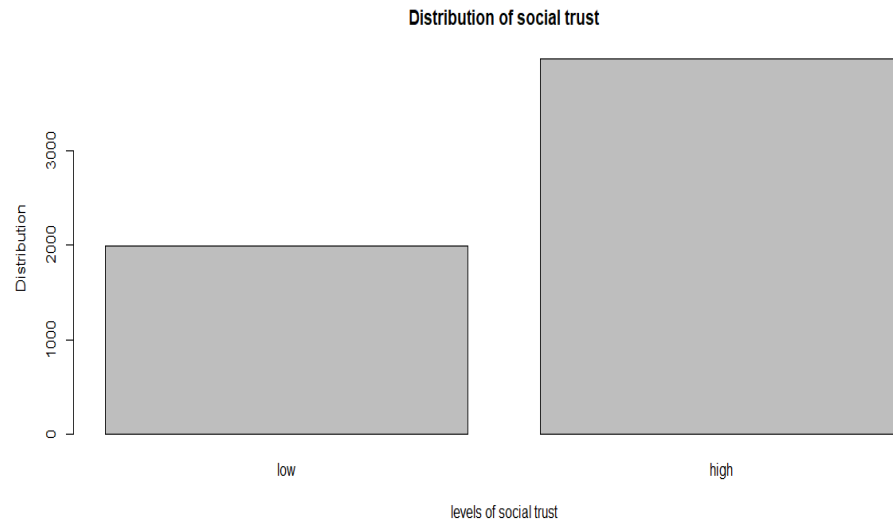
2. *Social participation*

The descriptive statistics for social participation are as follows: min = 1, max = 5, mean = 1.55, SD = 1.23. The results of frequency based on the levels of social participation from the sample are summarized in Table 3.

Table 3. Distribution frequency of social participation

No	Score	Category	Frequency	Percentage
1.	1-2	Low	4588	77
2.	3-5	High	1365	23
Total			5,963	100

The Table 3 shows that high frequency of respondents (4588) falls on the scores 1 and 2 which mean they exhibited low participation. Only 23% of respondents reported mild and high social participation. the results are displayed in Figure 3.

Figure 3. Social participation distribution
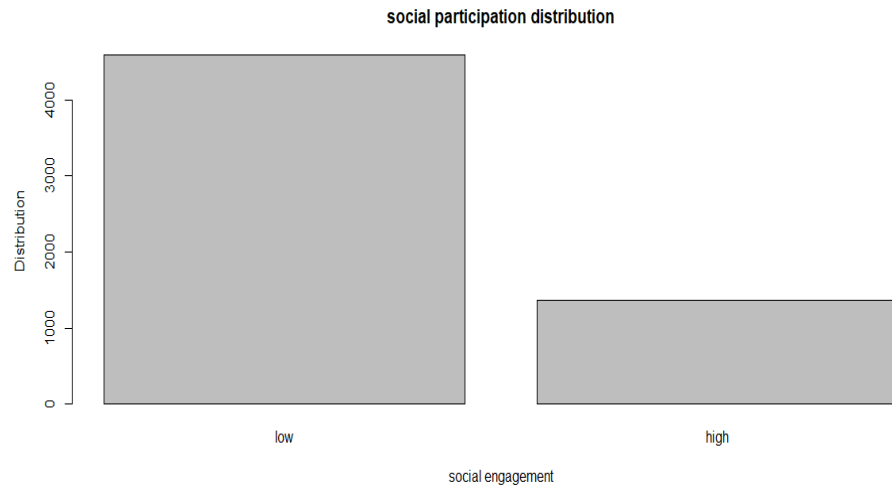
The Fig 3 shows that three fourth of the respondents exhibited low participation while one fourth exhibited high social participation.

c. Retirement

The retirement variable is measured by whether a respondent is retired or not retired. That means there only two categories: retired and not retired. The descriptive statistics are summarized in table 4.

Table 4. Retirement distribution

No	Category	Frequency	Percentage
1.	Retired	1,106	79.5
2.	Not retired	4,309	20.5
Total		5,415	100

The results from Table 4 shows that most of the respondents (4309) are not retired. This means that despite the fact that they have reached the mandatory age for retirement, they are still working. These results are displayed in the figure below.

Figure 4. Retirement distribution

The results from Figure 4 shows that one fifth of the respondents are retired while four fifth are still in the labor force.

B. Assumptions and hypothesis tests

1. Results of assumptions tests

Before testing the hypothesis with multiple regression, there are some assumptions that must be tested. Those tests are normality tests, heteroskedasticity test, multicollinearity test.

a. Normality test

Normality test shows whether the residuals are normally distributed. This means whether the data follows a normal distribution. This is done by exploring the results of the histogram graphics, normal probability plots and Kolmogorov-Smirnov. The results of normality tests are provided below.

Figure 5. histogram of the standardized residuals
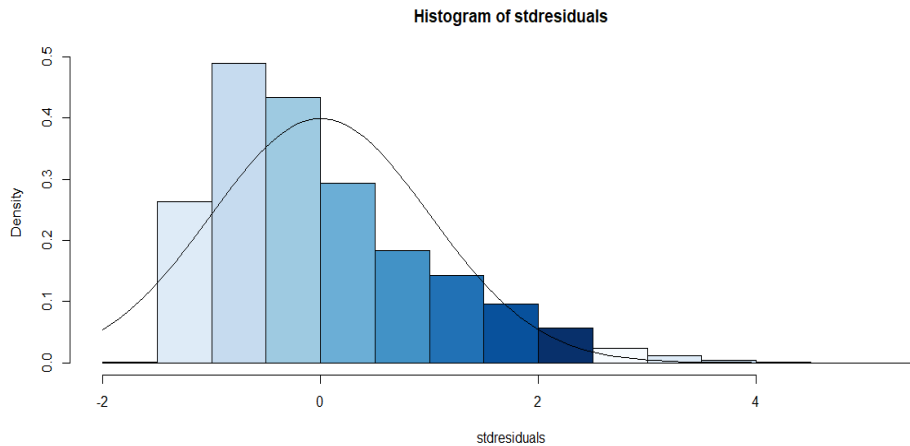
The histogram on Figure 5 above shows that the standardized residuals are a little bit skewed right. This indicates that the residuals slightly don't follow a normal distribution. However, many scholars contend that when the sample size is large enough, the distribution of residuals is not a problem.

b. Heteroskedasticity test

In regression models, the errors terms have to follow a constant variance. This is known as homoskedasticity. When this condition is violated, it is called heteroskedasticity. The Breusch-Pagan test is used to test foe heteroskedasticity and below are the results.

Table 5. Results of heteroskedasticity test.

No	Variables	Chi^2	Sig.	Verdict
1	Retirement	0.63	0.42	There is no heteroskedasticity
2	Social trust	2.58	0.10	There is no heteroskedasticity
3	Social participation	0.53	0.46	There is no heteroskedasticity
4	simultaneously	3.61	0.30	There is no heteroskedasticity

Table 5 shows that the dependent variable depression with all the independent variables follow a constant variance of errors because all the p-values are above 0.05. Therefore, there is no heteroskedasticity.

c. Multicollinearity test.

Multicollinearity test is done to check whether the independent variables are correlated between them. This is done by computing the (VIF Variance Inflation Factor) values. When VIF values are above 10, there is multicollinearity, otherwise there is not.

Table 6. Results of multicollinearity test

No.	Independent Variable	VIF
1.	Retirement	1.00
2.	Social trust	1.01
3.	Social participation	1.02

The Table 6 shows that all the independent variables have VIF values below 10, therefore, there is no multicollinearity between them.

2. Results of hypothesis test

a. Test of the first hypothesis

Hypothesis 1: There is an impact of retirement and social capital of mental health of elderly individuals in Indonesia.

H0: there is no impact of retirement and social capital on mental health of elderly individuals in Indonesia.

Ha: there is impact of retirement and social capital on mental health of elderly individuals in Indonesia.

If $p > 0.05$, H0 is accepted and Ha is rejected

If $p < 0.05$, H0 is rejected and Ha is accepted

The results of the linear regression model of depression predicted by retirement and social capital are as follows:

The analysis of linear regression models is summarized in Table 7. The results show that retirement and social capital taken together do predict depression among elderly individuals, after controlling for gender, age, education, and marital status.

Table 7. Results of regression models predicting depression

Model	β Coefficients	Standard Errors	T Values	Sig.
Intercept	7.80	0.67	11.5	0.00
Retirement	0.41	0.19	2.16	0.03
Social trust	-0.13	0.06	- 2.23	0.02
Social participation	-0.01	0.05	- 0.32	0.74
R^2	0.07			

Retirement is still positively associated with depression ($p = 0.03$). Social capital operationalized through social trust and social participation is negatively and significantly associated with depression ($p < 0.05$), however, social engagement did not exhibit statistical significance. Therefore, the results exhibit enough evidence to reject the null hypothesis and accept the alternative hypothesis. This means that retirement and social capital taken together do predict mental health of old individuals.

b. Test of the second hypothesis

Hypothesis 2: There is a negative impact of retirement on mental health of elderly individuals in Indonesia.

H0: There is no impact of retirement on mental health of elderly individuals in Indonesia.

Ha: There is a negative impact of retirement on mental health of elderly individuals in Indonesia.

If p > 0.05, H0 is accepted and Ha is rejected

If p < 0.05, H0 is rejected and Ha is accepted

The results of the linear regression model of depression predicted by retirement are as follows:

Table 8. Results of regression models predicting depression

Model	β Coefficients	Standard Errors	T Values	Sig.
Intercept	5.57	0.07	78.43	0.00
Retirement	0.32	0.15	2.03	0.03
R^2	0.01			

The results of the regression model of depression predicted by retirement are summarized in Table 8. The results reveal that retirement have a significant positive association with depression (p = 0.03). Consequently, retirement has a negative impact on mental health. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. Retirement has a significant negative impact on mental health.

c. Test of the third hypothesis

Hypothesis 3: There is a positive impact of social capital on mental health of elderly individuals in Indonesia.

H0: there is no impact of social capital on mental health of elderly individuals in Indonesia.

Ha: there is a positive impact of social capital on mental health of elderly individuals in Indonesia.

If $p > 0.05$, H0 is accepted and Ha is rejected

If $p < 0.05$, H0 is rejected and Ha is accepted

The results of the linear regression model of depression predicted by social capital are as follows:

Table 9. Results of regression models predicting depression

Model	B Coefficients	Standard Errors	T Values	Sig.
Intercept	6.47	0.16	38.43	0.00
Social trust	-0.21	0.05	-3.95	0.00
Social engagement	-0.16	0.04	-3.21	0.00
R^2	0.04			

The results of linear regression model are summarized in Table 9. They reveal that social capital does predict mental health. Social trust and social participation are significantly and negatively associated with depression (p = 0.00). Consequently, they are positively associated with mental health. Thus, the null hypothesis is rejected and the alternative hypothesis is accepted. Social capital has a positive impact on mental health of elders in Indonesia. This means that social capital is a significant predictor of mental health.

d. The equation of the multiple regression.

The results of the multiple regression are summarized in Table 7.

The results of the Table 7 shows that the constant of the regression is 7.80 and the regression coefficient for retirement is 0.41, the regression coefficient for social trust is -0.13 while it is -0.01 for social participation.

The equation of the regression is as follows: $Y = a+bX_1+cX_2+dX_3$. Based on the results, the regression equation of depression predicted by retirement and social capital is as follows: $Y = 7.80+0.41X_1-0.13X_2-0.01X_3$

e. Test for the coefficient of determination (R2)

The coefficient of determination, R squared, indicates how much of the variance in the dependent variable is explained by the regression model. The total variance in depression as explained by retirement and social capital is shown in Table 10.

Table 10. Coefficient of determination values

No	Variables	R Squared
1	Retirement	0.01
2	Social trust+ Social participation	0.04
3	Retirement + social trust + social participation	0.07

The coefficient of determination values in Table 10 can be explained as follows:

1) The coefficient of determination for retirement and social capital variables after controlling for confounding variables is 0.07, this means retirement and social capital together explains only 7% of the variance in depression scores. The other 93% can be explained by other variables that are not studied here.

2) The coefficient of determination for retirement is 0.01. This means that retirement alone can explain only 1% of the variance in depression scores. The other 99% can be explained by other variables that are not studied here.

3) The coefficient of determination for social capital variables is 0.04. This means that social capital explains 4% of the variance in depression scores. The other 96% can be explained by other variables that are not studied here.

C. Discussion

The results obtained are used to answer the hypothesis of the study. Below is presented the discussion of the results.

1. **There is an impact of retirement and social capital on mental health of elderly individuals in Indonesia**.

The results of this research showed that retirement and social capital do predict mental health of elderly individuals, even after controlling for confounding variables. Retirement still exhibited a positive association with depression. This shows that there is a difference in reporting mental health between retired individuals and non-retired individuals of the same age in the context of Indonesia. Those still working reported better mental health than those retired. This is in line with previous studies that found a negative relationship between retirement and mental health in developing countries (Shiba, Kondo, Kondo, & Kawachi, 2017; Sugihara, Sugisawa, Shibata, & Harada, 2008). However, the findings of this study conflicts with those found in developed countries. In France for example, using longitudinal analysis Westerlund et al. (2010) found a decrease in depressive symptoms after retirement. This shows that those who were retired improved their mental health compared to those who kept working which indicate a positive effect of retirement on mental health. In Australia, Butterworth et al. (2006) found similar results. The findings of their study showed a positive effect of retirement on mental health. Specifically, those who kept working exhibited poor mental health than those who were in retirement.

It seems that the results from developed and developing countries are different. While the findings from developed countries show positive effect on retirement on mental health, the results from developing countries show a negative effect. In fact, Veeramuthu and Shanthi (2017) found that retired individuals reported increased depressive symptoms than those in labor force in India. In japan, Shiba et al. (2017) found the same results among community dueling individuals. Bertoni and Brunello (2017) found similar results on retired and on their wives as well. Specifically, the findings showed that retirement increased depressive symptoms of husband and their wives as well.

In the context of the present research, the findings revealed a negative impact of retirement on mental health. Specifically, retired individuals reported increased depressive symptoms than those still in labor force. This means that after retirement there is an increase in depressive symptoms for old individuals. The explanation for these results may be the fact that after retirement, old individuals tend to look for other jobs to contribute to the functioning of the family. This might not allow retired individuals to enjoy time for vacation or leisure activities like in developed countries.

The second factor that impacts on mental health of elderly individuals is social capital. The findings of the research revealed a positive impact of cognitive social capital on mental health. However, structural social capital did not reach statistical significance Specifically, old individuals who trust their neighbors revealed decreased depressive symptoms. Parallelly, old individuals who

participated in community activities reported decreased depressive symptoms, however, the association was not statistically significant. This is in line with previous studies that found positive effect of social capital on mental health. In Australia, Yiengprugsawan, Welsh and Kendig (2017) found that low social trust was associated with poor mental health in old age. In South Australia, Ziersch, Baum, Darmawan, Kavanagh, & Bentley (2009) found that trust was associated with mental health among rural and urban communities. In South-Africa, Ramlagan et al. (2013) found similar results. Those who reported low trust had increased depressive symptoms. In a systematic review of papers on the association between social capital and mental health, Ehsan and De Silva (2015) reported that high scores of cognitive social capital were associated with low rates of common mental disorders. Consistent with these prior studies, this research found positive impact of social capital on mental health among elderly individuals. Trust increases cooperation between individuals (Putnam, 1995) and this may explain its positive association with mental health. On the other hand, old individuals who participate in community activities may get social support they could not get if they were not participating in those activities. Moreover, the social ties they make may bring a sense of safety and belongingness which may improve their mental health.

In conclusion, social capital emerges as an important predictor of mental health in old age. High levels of social trust and community participation are associated with good mental health. In terms of retirement, the findings reveal

significant difference between retired individuals and those still in labor force in mental health status.

2. **There is a negative impact of retirement on mental health of elderly individuals in Indonesia.**

The results of this study revealed that retirement alone does predict mental health in Indonesia. Those who are retired reported high levels of depressive symptoms than those still in labor force. This is in line with previous studies that found negative impact of retirement on mental health (Shiba et al., 2017; Chwingel et al., 2009; Sugihara et al., 2008). Therefore, retirement in itself predicts mental health in such way that those who are retired have increased levels of depression than those who are still working.

These results confirm the reported empirical evidence of the literature that, in developed countries, retirement has a positive effect on mental health, and that in developing countries, retirement has a negative effect on mental health.

3. **There is a positive impact of social capital on mental health of elderly individuals in Indonesia.**

The findings of this study revealed a positive impact of social capital on mental health of elderly individuals in Indonesia. Social capital alone does predict mental health as well. Specifically, social trust and community participation are positively associated with mental health. These findings corroborate those of prior studies (Miller et al., 2006; Ramlagan et al., 2013; Utomo et al., 2018; Yiengprugsawan, Welsh, & Kendig, 2017). In Indonesia, another study found that

social engagement, another measure of structural social capital was associated with successful ageing (Cao & Rammohan, 2016). The social engaging was mainly through income generating for males and family roles activities females.

It seems that social capital has a positive effect on mental health in developed and developing countries. It can be assumed that the benefits people derive from social relationships and participation bring positive outcomes for mental health.

D. Study Limitations

Although this research used nationally representative data, it presents some limitations.

1. The data used are cross-sectional, that means they were taken on one point in time. Therefore, there can be no causal associations.

2. The lack of standardized measurement for social capital in the literature poses problem, although the items used are frequently used in the literature

3. Although a set of confounding variables was entered in the analysis, some significant confounders may have gone undetected. It is still possible that retirement preparedness may influence mental health after retirement and the study didn't control for this confounder.

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

A. CONCLUSION

The conclusion from the discussion of the results of this research is as follows:

1. Retirement and social capital taken together do predict mental health of elderly individuals. Taking into account social capital, retirement exhibits a negative significant association with mental health. Social capital shows a positive and significant association with mental health even taking into count control variables.

2. Retirement alone exhibits a negative and significant association with mental health of elderly individuals. This means retired individuals experience a decrease in their mental health compared to their counterparts who remained in the labor force.

3. Social capital exhibits a positive and significant association with mental health of elderly individuals. This means that the more people trust their neighbors and participate in social activities, the more they gain mental health benefits.

B. IMPLICATIONS

Implications that can be made from the discussion of the results of this research are as follows:

1. The results of this research revealed that retirement and social capital are important predictors of mental health. Specifically, the results showed that after

retirement there is a decrease in mental health while trusting neighbors and participating in social activity improves mental health. This implicates that increasing trustworthiness of neighborhoods and facilitating elderly individuals to participate more in social activities can boost their mental health.

2. The findings of this research can as well implicate the need for psychoeducation of communities. It is possible that elderly individuals are not aware of the benefits of participating ion community activities or building trustful communities. With programs that target this issue at the community level, mental health of elderly individuals can be improved.

C. RECOMMENDATIONS

The recommendations of this research are as follows:

1. For elderly individuals

   The findings of this research show that retirement is negatively associated with mental health in old age and social capital is positively associated with mental health. For elderly individuals it is important to know this for different reasons. First, knowing this, old individuals can prepare their retirement before the due date of retirement. This way, they may be psychologically prepared to face the challenges after retirement and adjust to it in a better way. Second, knowing the benefits of trust for mental health, they can make trustful relationships with their neighbors and try to be trustful as well. This way, trustworthiness of neighborhoods can be achieved. Third, knowing the positive

benefits of participating in social activities for mental health, they may be keen to participate more and involve their relatives in the process.

With trustworthiness of neighborhoods and elderly individuals participating in community activities, the negative effect of retirement can be hindered. Consequently, elderly individuals can enjoy better mental health and a happy life.

2. For professionals

The findings of this research can be used by professionals in field of geriatrics, mental health, social welfare to give better interventions and preventions. Interventions that target to improve trustworthiness of neighborhoods and increasing community participation can improve mental wellbeing of elderly individuals. For mental health social welfare professionals, it is important to engage elderly individuals in the social life of their communities. Moreover, it important to include trust and community participation in the intervention and prevention programs.

3. For future research

Future studies are recommended to use longitudinal designs to investigate the relationship between retirement, social capital and mental health. Specifically, it is crucial to follow elderly individuals before retirement and after retirement. Measuring their mental health before and after retirement would bring better insights. Moreover, future studies should include potential confounders in the analysis. In fact, it is possible that mental health varies

according to whether the retirement was planned or not (Milne, 2013: 126). Elderly individuals who didn't plan retirement may have decrease in mental health than those who did.

4. For government and policy makers

For government and policy makers, it is important to include policies that can facilitate elderly individuals to engage more in social activities and policies that can build trust in communities. Moreover, it is important to improve retirement-related policies in order to allow retired individuals enjoy successful and healthy ageing.

References

Adioetomo, S. M., & Mujahid, G. (2014). *'Indonesia on the threshold of population ageing', UNFPA Indonesia Monograph Series: No.1.*

Ahnquist, J., Wamala, S. P., & Lindstrom, M. (2012). Social determinants of health - A question of social or economic capital? Interaction effects of socioeconomic factors on health outcomes. *Social Science and Medicine*, *74*(6), 930–939. https://doi.org/10.1016/j.socscimed.2011.11.026

Alexopoulos, G., S. (2005). Depression in the elderly. *Lancet*, *365*, 1961–70. https://doi.org/10.1016/S0140-6736(05)66665-2

Alexopoulos, G., Kasper, S., Möller, H.-J., & Moreno, C. (2014). *Guide to Assessment Scales in Major Depressive Disorder*. Switzerland: Springer International Publishing.

Allen, J., Balfour, R., Bell, R., & Marmot, M. (2014). Social determinants of mental health. *International Review of Psychiatry*, *26*(4), 392–407. https://doi.org/10.3109/09540261.2014.928270

Andresen, E. M., Malmgren, J. A., Carter, william B., & Patrick, D. L. (1994). Screening for Depression in Well Older Adults: Evaluation of a Short Form of the CES-D. *American Journal of Preventive Medicine*, *10*(2), 77–84. https://doi.org/10.1016/S0749-3797(18)30622-6

Armenian, H. K., Pratt, L. A., Gallo, J., & Eaton, W. W. (1998). Psychopathology as a predictor of disability: A population-based follow- up study in Baltimore, Maryland. *American Journal of Epidemiology*, *148*(3), 269–275. https://doi.org/10.1093/oxfordjournals.aje.a009635

Atchley, R. . (1976). *The sociology of retirement*. Cambridge Masachusetts: Schenkman Publishing Co., Inc.

Behncke, S. (2010). Does Retirement Trigger Ill Health ? *Health Economics*, (10), 282–300.

Bekhet, A. K., & Zauszniewski, J. A. (2012). Mental Health of Elders in Retirement Communities: Is Loneliness a Key Factor? *Archives of Psychiatric Nursing*, *26*(3), 214–224. https://doi.org/10.1016/j.apnu.2011.09.007

Bertoni, M., & Brunello, G. (2017). Pappa Ante Portas: The effect of the husband's retirement on the wife's mental health in Japan. *Social Science and Medicine*, *175*, 135–142. https://doi.org/10.1016/j.socscimed.2017.01.012

BIPO. (2011). *Updates on the Social Security System in Indonesia*. Retrieved from

www.biposervice.com

Biswas, S. (2018). *Spotlight on retirement: Indonesia*. Retrieved from
https://www.soa.org/globalassets/assets/Files/resources/research-
report/2018/spotlight-retirement-indonesia.pdf

Blazer, D., Burchett, B., Service, C., & George, L. K. (1991). The association of age
and depression among the elderly: An epidemiologic exploration. *Journals of
Gerontology*, *46*(6). https://doi.org/10.1093/geronj/46.6.M210

Bolin, K., Lindgren, B., Lingstrom, M., & Nystedt, P. (2003). Investments in social
capital — implications of social interactions for the production of health. *Social
Science & Medicine*, *56*(12), 2379–2390.

Bonelli, R., Dew, R. E., Koenig, H. G., Rosmarin, D. H., & Vasegh, S. (2012).
Religious and spiritual factors in depression: Review and integration of the
research. *Depression Research and Treatment*, *2012*.
https://doi.org/10.1155/2012/962860

Bosse, R., Aldwin, C., M., Levenson, M., R., & Workman-daniels, K. (1991). How
Stressful Is Retirement ? Findings From the Normative Aging Study. *Journal of
Gerontology: PSYCHOLOGICAL SCIENCES*, *46*(1).

Bourdieu P. & Wacquant L.J.D. (1992). *An invitation to reflexive sociology*. Chicago:
University of Chicago Press.

Butrica, B. A., & Schaner, S. G. (2005). *Satisfaction and Engagement in Retirement*.
Washington, DC: Urban Institute.

Butterworth, P., Gill, S. C., Rodgers, B., Anstey, K. J., Villamil, E., & Melzer, D.
(2006). Retirement and mental health: Analysis of the Australian national survey
of mental health and well-being. *Social Science and Medicine*, *62*(5), 1179–
1191. https://doi.org/10.1016/j.socscimed.2005.07.013

Cao, J., & Rammohan, A. (2016). Social capital and healthy ageing in Indonesia.
BMC Public Health, *16*(1), 1–14. https://doi.org/10.1186/s12889-016-3257-9

Castel, A. D. (2019). *Better with Age: The Psychology of Successful Aging*. New
York: Oxford University Press.

Chang, K.-F., & Weng, L.-J. (2013). Screening for depressive symptoms among older
adults in Taiwan: Cutoff of a short form of the Center for Epidemiologic Studies
Depression Scale. *Health*, *05*(03), 588–594.
https://doi.org/10.4236/health.2013.53A078

Cheng, S.-T., Chi, I., Fung, H. H., Li, L. W., & Woo, J. (2015). *Successful Aging:*

Asian Perspectives. Dordrecht: Springer.

Chletsos, M., Mazetas, D., Kotrotsiou, E., & Gouva, M. (2013). The effect of unemployment on mental health. *European Psychiatry*, *28*, 1. https://doi.org/10.1016/S0924-9338(13)76821-4

Christoforou, A. (2005). On the Determinants of Social Capital in Greece Compared to Countries of the European Union. *FEEM Working Paper*, *68*(I).

Chung, I. S. (2017). Retirement Planning and Quality of Life in Retirement : Factors affecting the Korean American Elders ' Retirement Satisfaction. *Journal of Sociology and Social Work*, *5*(1), 85–98. https://doi.org/10.15640/jssw.v5n1a9

Chwingel, A., Niti, M., Tang, C., & Ng, T. P. (2009). Continued work employment and volunteerism and mental well-being of older adults : Singapore longitudinal ageing studies. *Age and Ageing*, *38*, 531–537. https://doi.org/10.1093/ageing/afp089

Cohen, A. (2017). Mental Health Etiology : Social Determinants. In *International Encyclopedia of Public Health, Second Edition* (Second Edi, Vol. 4). https://doi.org/10.1016/B978-0-12-803678-5.00281-2

Coleman J.S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, *94*.

Conwell, Y., Van Orden, K., & Caine, E. D. (2011). Suicide in Older Adults. *Psychiatric Clinics of North America*, *34*(2), 451–468. https://doi.org/10.1016/j.psc.2011.02.002

Cook, I. G., Halsall, J. P., & Wankhade, P. (2015). *Sociability, Social Capital, and Community Development: A Public Health Perspective*. Switzerland: Springer International Publishing.

Cronin-Stubbs, D., Mendes de Leon, C., Beckett, L. aurel, Field, T. erry, Glynn, R., & Evans, D. (2000). Six-Year Effect of Depressive Symptoms on the Course of Physical Disability in Community-Living Older Adults. *Archives of Internal Medicine*, *160*, 3074–3080. https://doi.org/10.1001/archinte.160.20.3074

Cumming, E., & Henry, W. (1961). *Growing old: The process of disengagement, Basic Books*. New York.

Das, J., Do, Q., Friedman, J., Mckenzie, D., & Scott, K. (2007). Mental health and poverty in developing countries : Revisiting the relationship. *Social Science & Medicine 65*, *65*, 467–480. https://doi.org/10.1016/j.socscimed.2007.02.037

Dumbach, M. (2014). *Establishing Corporate Innovation Communities: A Social*

Capital Perspective. Nuremberg, Germany: Springer.

Ehsan, A. M., & De Silva, M. J. (2015). Social capital and common mental disorder: A systematic review. *Journal of Epidemiology and Community Health*, *69*(10), 1021–1028. https://doi.org/10.1136/jech-2015-205868

Ekerdt, D. J., Bosse, R., & Levkoff, S. (1985). An Empirical Test for Phases of Retirement : Findings from the Normative Aging Study. *Journal of Gerontology*, *40*(1), 95–101.

Fox, J., & Leanage, A. (2016). R and the Journal of Statistical Software. *Journal of Statistical Software*, *73*(2). https://doi.org/10.18637/jss.v073.i02

Freitas-silva, L. R. (2016). Biological determination of mental disorders: a discussion based on recent hypotheses from neuroscience. *Cadernos Saúde Pública*, *32*(8), 1–10.

Galderisi, S., Heinz, A., Kastrup, M., Beezhold, J., & Sartorius, N. (2015). Toward a new definition of mental health. *World Psychiatry*, *14*(2), 231–233.

Gatta, M. (2019). *Waiting on Retirement: aging and economic insecurity in Low-Wage Work*. Stanford: Stanford University Press.

Gheorghui, M. A., Vignoles, V. L., & Smith, P. B. (2009). Beyond the United States and Japan: Testing Yamagishi's Emancipation Theory of Trust across 31 Nations. *Social Psychology Quarterly*, *72*(4), 365–383. https://doi.org/10.1177/019027250907200408

Gilbert, K. L., Quinn, S. C., Goodman, R. M., Butler, J., & Wallace, J. (2013). A meta-analysis of social capital and health: A case for needed research. *Journal of Health Psychology*, *18*(11), 1385–1399. https://doi.org/10.1177/1359105311435983

Glaeser, E. L., Laibson, D., & Sacerdote, B. (2002). An Economic Approach to Social Capital. *The Economic Journal*, *112*.

Guney, S., Kalafat, T., & Boysan, M. (2010). Dimensions of mental health : life satisfaction , anxiety and depression : a preventive mental health study in Ankara University students population. *Procedia Social and Behavioral Sciences*, *2*, 1210–1213. https://doi.org/10.1016/j.sbspro.2010.03.174

Headey, B., Kelley, J., & Wearing, A. (1993). Dimensions of Mental Health: Life Satisfaction, Positive Affect, Anxiety and Depression. *Social Indicators Research*, *29*(1), 63–82.

Heide, I. Van Der, Rijn, R. M. Van, Robroek, S. J. W., Burdorf, A., & Proper, K. I.

(2013). Is retirement good for your health ? A systematic review of longitudinal studies. *BMC Public Health*, *13*, 1–11.

Heinevik, J., Nilsson, C., & Ralsmark, H. (2017). *The Effect of Retirement on Mental Health : The Role of Social Capital*. University of Gothenburg.

International Labour Organization. (2017). *Actuarial study on the reform of the Indonesian BPJS*. Jakarta.

Islam, S., & Alam, M. S. (2017). Social Capital and Mental Health : Results from a Cross-Sectional Study in Bangladesh. *Asian Social Science*, *10*(2), 118–125. https://doi.org/10.5539/ass.v10n2p118

Johnson, C. M., Rostila, M., Svensson, A. C., & Engström, K. (2017). The role of social capital in explaining mental health inequalities between immigrants and Swedish-born: A population-based cross-sectional study. *BMC Public Health*, *17*(1), 1–15. https://doi.org/10.1186/s12889-016-3955-3

Kadar, K. S., Francis, K., & Sellick, K. (2013). Ageing in Indonesia - Health Status and Challenges for the Future. *Ageing International*, *38*(4), 261–270. https://doi.org/10.1007/s12126-012-9159-y

Keyes, C. L. M. (2005). Mental Illness and / or Mental Health ? Investigating Axioms of the Complete State Model of Health. *Journal of Consulting and Clinical Psychology*, *73*(3), 539–548. https://doi.org/10.1037/0022-006X.73.3.539

Kim, D., Subramanian, S. V., & Kawachi, I. (2008). Social capital and physical health: A systematic review of the literature. In *Social Capital and Health*. https://doi.org/10.1007/978-0-387-71311-3_8

Knack, S., & Keefer, P. (1997). Does social capital have an economic payoff? a cross-country investigation. *The Quarterly Journal of Economics*, *112*(4), 1251–1288.

Kotarski, H. (2015). *Pragmatics of social and cultural capital*. RZESZÓW: Wydawnictwa Uniwersytetu Rzeszowskiego.

Levsen, N. (2015). *Lead Markets in Age-Based Innovations: Demographic Change and Internationally Successful Innovations*. Hamburg: Springer Fachmedien Wiesbaden.

Lofors, J., & Sundquist, K. (2007). Low-linking social capital as a predictor of mental disorders: A cohort study of 4.5 million Swedes. *Social Science and Medicine*, *64*(1), 21–34. https://doi.org/10.1016/j.socscimed.2006.08.024

Loue, S. & Sajatovic, M. (2008). *Encyclopedia of Aging and Public Health*. Springer.

Lund, C., Breen, A., Flisher, A. J., Kakuma, R., Corrigall, J., Joska, J. A., … Patel, V. (2010). Poverty and common mental disorders in low and middle income countries : A systematic review. *Social Science & Medicine*, *71*(3), 517–528. https://doi.org/10.1016/j.socscimed.2010.04.027

Mackinnon, A., Mccallum, J., Andrews, G., & Anderson, I. (1998). The Center for Epidemiological Studies Depression Scale in Older Community Samples in Indonesia , North Korea, Myanmar, Sri Lanka, and Thailand. *Journal of Gerontology: Psychological Sciences*, *53*(6), 343–352.

Mahwati, Y. (2017). The Relationship between Spirituality and Depression Among the Elderly in Indonesia. *Makara Journal of Health Research*, *21*(1), 13–19. https://doi.org/10.7454/msk.v21i1.6206

McIntyre, R. S., Cha, D. S., & Soczynska, J. K. (2014). *Cognition in Major Depressive Disorder*. Oxford: Oxford University Press.

Mein, G., Martikainen, P., Hemingway, H., Stansfeld, S., & Marmo, M. (2003). Is retirement good or bad for mental and physical health servants. *J Epidemiol Community Health*, (57), 46–49.

Mendes de Leon, C. (2005). Social engagement and successful aging. *European Journal of Ageing*, *2*(1), 64–66. https://doi.org/10.1007/s10433-005-0020-y

Miller, D. L., Scheffler, R., Lam, S., Rosenberg, R., & Rupp, A. (2006). Social capital and health in Indonesia. *World Development*, *34*(6), 1084–1098. https://doi.org/10.1016/j.worlddev.2005.11.006

Miller, W. C., Anton, H. A., & Townson, A. F. (2008). Measurement properties of the CESD scale among individuals with spinal cord injury. *Spinal Cord*, *48*, 287–292. https://doi.org/10.1038/sj.sc.3102127

Milne, D. (2013). *The Psychology of Retirement: Coping with the Transition from Work*. Chichester: Wiley-Blackwell.

Minkler, M. (2015). Research on the Health Effects of Retirement : An Uncertain Legacy. *Journal of Health and Social Behavior*, *22*(2), 117–130.

Mitchell, A. J., & Vaze, A. (2010). Do Primary Care Physicians Have Particular Difficulty Identifying Late-Life Depression ? A Meta-Analysis Stratified by Age. *Psychotherapy and Psychosomatics*, *79*(5), 285–294. https://doi.org/10.1159/000318295

Mitchell, C. U., & LaGory, M. (2002). Social Capital and Mental Distress in an Impoverished Community. *City and Community*, *1*(2), 199–222. https://doi.org/10.1111/1540-6040.00017

Mukku, S. S. R., Harbishettar, V., & Sivakumar, P. T. (2018). Psychological morbidity after job retirement: A review. *Asian Journal of Psychiatry*, *37*, 58–63. https://doi.org/10.1016/j.ajp.2018.08.003

Nizeyumukiza, E., Pierewan, A. C., Ndayambaje, E., & Ayriza, Y. (2020). Social Engagement and Retirement Satisfaction : Evidence from Indonesia. *Journal of Population and Social Studies*, *28*(3), 221–231. https://doi.org/10.25133/JPSSv28n3.015

Patel, V., Saxena, S., Lund, C., Thornicroft, G., Baingana, F., Bolton, P., … Collins, P. Y. (2018). *The Lancet Commissions The Lancet Commission on global mental health and sustainable development*. *6736*(18). https://doi.org/10.1016/S0140-6736(18)31612-X

Peltzer K, & Phaswana-Mafuya N. (2013). Hypertension and associated factors in older adults in South Africa. *Cardiovascular Journal of Africa*, *24*(3), 67–71.

Pisani, E., Franceschetti, G., Secco, L., & Christoforou, A. (2017). *Social Capital and Local Development : From Theory to Empirics*. Palgrave Macmillan.

Prasad, S. B. (1962). The Retirement Postulate of the Disengagement Theory. *The GErontologist*, *4*(1), 20–23. https://doi.org/10.1093/geront/4.1.20

Putnam, R. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton: NJ: Princeton University Press.

Putnam, R. D. (1995). Bowling alone: Americas´s declining social capital. *Journal of Democracy*, *6*, 65–78.

Ramlagan, S., Peltzer, K., & Phaswana-mafuya, N. (2013). Social capital and health among older adults in South Africa. *BMC Geriatrics*, *13*, 100. https://doi.org/10.1186/1471-2318-13-100

Reitzes, D. C., & Mutran, E. J. (2004). The Transition to Retirement: Stages and Factors that Influence Retirement Adjustment. *The International Journal of Aging & Human Development*, *59*(1), 63–84. https://doi.org/10.2190/NYPP-RFFP-5RFK-8EB8

Richardson, V., & Kilty, K. M. (1991). Adjustment to retirement: Continuity vs. discontinuity. *The International Journal of Aging & Human Development*, *33*(2), 151–169. https://doi.org/10.2190/6RPT-U8GN-VUCV-P0TU

Rodda, J., Walker, Z., & Carter, J. (2011). Depression in older adults. *Clinical Review*, *343*, 683–687. https://doi.org/10.1136/bmj.d5219

Rohde, N., Tang, K. K., Osberg, L., & Rao, P. (2016). The effect of economic

insecurity on mental health : Recent evidence from Australian panel data. *Social Science & Medicine*, *151*, 250–258. https://doi.org/10.1016/j.socscimed.2015.12.014

Rousseau, D. M., Sitkin, S. I. M. B., & Burt, R. S. (1998). Not so Different After All: A Cross Discipline View of Trust. *Academy of Management Review*, *23*(3), 393–404. https://doi.org/10.5465/amr.1998.926617

Ruan, J. (2017). *Guanxi, Social Capital and School Choice in China: The Rise of Ritual Capital*. London: Palgrave Macmillan.

Russell, A. (1975). Disengagement Theory : A Critique and Proposal. *American Sociological Review*, *40*(5), 553–569.

Sahlgren, G. H. (2012). *Work ' til You Drop : Short- and Longer-Term Health Effects of Retirement in Europe* (No. Working Paper 928).

Segal, Z. V., Williams, J. M. G., & Teasdale, J. d. (2013). *Mindfulness-Based Cognitive Therapy for Depression*. New York: The Guilford Press.

Shiba, K., Kondo, N., Kondo, K., & Kawachi, I. (2017). Retirement and mental health : does social participation mitigate the association ? A fixed-effects longitudinal analysis. *BMC Public Health*, *17*(526), 1–10. https://doi.org/10.1186/s12889-017-4427-0

Snowdon, J. (2001). Suicide in late life. *Reviews in Clinical Gerontology*, *11*(04), 353–360. https://doi.org/10.1063/1.2146180

Stafford, M., De Silva, M., Stansfeld, S., & Marmot, M. (2008). Neighbourhood social capital and common mental disorder: Testing the link in a general population sample. *Health and Place*, *14*(3), 394–405. https://doi.org/10.1016/j.healthplace.2007.08.006

Strakowski, S. M., & Nelson, E. B. (2015). *Major Depressive Disorder*. Oxford: Oxford University Press.

Strauss, J., Witoelar, F., & Sikoki, B. (2016). *User ' s Guide for the Indonesia Family Life Survey , Wave 5* (Vol. 2). Retrieved from https://www.rand.org/pubs/working_papers/WR1143z2.html.

Sugihara, Y., Sugisawa, H., Shibata, H., & Harada, K. (2008). Productive Roles , Gender , and Depressive Symptoms : Evidence From a National Longitudinal Study of Late-Middle-Aged Japanese. *The Journals of Gerontology*, *63*(4), 227–234. https://doi.org/10.1093/geronb/63.4.P227

Sujarwoto, S., Tampubolon, G., & Pierewan, A. C. (2019). A Tool to Help or Harm ?

Online Social Media Use and Adult Mental Health in Indonesia. *International Journal of Mental Health and Addiction*, (1). https://doi.org/10.1007/s11469-019-00069-2

Suresh Kumar, P., Anish, P., & George, B. (2015). Risk factors for suicide in elderly in comparison to younger age groups. *Indian Journal of Psychiatry*, *57*(3), 249. https://doi.org/10.4103/0019-5545.166614

Szreter, S., & Woolcock, M. (2004). Health by association? Social capital, social theory, and the political economy of public health. *International Journal of Epidemiology*, *33*(4), 650–667. https://doi.org/10.1093/ije/dyh013

Tampubolon, G., Subramanian, S. V., & Kawachi, I. (2011). Neighbourhood social capital and individual self-rated health in Wales. *Health Economics*. https://doi.org/10.1002/hec.1808

Tampubolon, G., & Hanandita, W. (2014). Poverty and mental health in Indonesia. *Social Science & Medicine*, *106*, 20–27. https://doi.org/10.1016/j.socscimed.2014.01.012

Utomo, A., Mcdonald, P., Utomo, I., Cahyadi, N., & Sparrow, R. (2018). Social engagement and the elderly in rural Indonesia. *Social Science and Medicine*, (May), 0–1. https://doi.org/10.1016/j.socscimed.2018.05.009

Van der Kolk, B. A. (2010). *Developmental trauma disorder*. Retrieved from http://www.traumacenter.org/products/pdf_files/preprint_dev_trauma_disorder.pdf

Veeramuthu & Shanthi, B. (2017). Impact of Retirement on Mental Health. *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, *16*(5), 1–28. https://doi.org/10.9790/0853-1605020128

Westerlund, H., Vahtera, J., Ferrie, J. E., Singh-manoux, A., Pentti, J., Melchior, M., … Kivimäki, M. (2010). Effect of retirement on major chronic conditions and fatigue : French GAZEL occupational cohort study. *British Medical Journal*, *341*(November). https://doi.org/10.1136/bmj.c6149

Whiteley, P. F. (2000). Economic Growth and Social Capital. *Political Studies*, *48*, 443–466.

Williams, S., McGee, R., Olaman, S., & Knight, R. (1997). Level of education, age of bearing children and mental health of women. *Social Science and Medicine*, *45*(6), 827–836. https://doi.org/10.1016/S0277-9536(96)00423-6

World Health Organization. (2014). *Determinants of Mental Health. World Health Organization*. Geneva.

World Health Organization. (2016). *Mental health and older adults*. Retrieved from http://www.who.int/mediacentre/factsheets/fs381/en/#.

Wray-lake, L., Dehaan, C. R., Shubert, J., Ryan, R. M., Dehaan, C. R., Shubert, J., & Ryan, R. M. (2017). Examining links from civic engagement to daily well-being from a self-determination theory perspective. *The Journal of Positive Psychology*, *9760*(October), 1–12. https://doi.org/10.1080/17439760.2017.1388432

Wu, Q., Ge, T., Emond, A., Foster, K., Gatt, J. M., Hadfield, K., … Wouldes, T. A. (2018). Acculturation, resilience, and the mental health of migrant youth: a cross-country comparative study. *Public Health*, *162*, 63–70. https://doi.org/10.1016/j.puhe.2018.05.006

Wu, Qiaobing, Lu, D., & Kang, M. (2014). Social capital and the mental health of children in rural China with different experiences of parental migration. *Social Science & Medicine*, 1–8. https://doi.org/10.1016/j.socscimed.2014.10.050

Yiengprugsawan, V. Welsh, J. & Kendig, H. (2017). Social capital dynamics and health in mid to later life : findings from Australia. *Quality of Life Research*. https://doi.org/10.1007/s11136-017-1655-9

Ziersch, A. M., Baum, F., Darmawan, I. G. N., Kavanagh, A. M., & Bentley, R. J. (2009). Social capital and health in rural and urban communities in South Australia. *Australian and New Zealand Journal of Public Health.*, *33*, 7–16. https://doi.org/10.1111/j.1753-6405.2009.00332.x